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EDUCATIONAL REVIEW

JUNE, 1892

I.

THE POLICY OF THE STANFORD UNIVERSITY.

The charter of the Leland Stanford Junior University provides for a university for both sexes, with colleges, schools, seminaries of learning, mechanical institutes, museums, galleries of art, and all other things necessary and appropriate to a university of high degree. The practice was adopted at the very first of carrying on the work in the applied sciences, mechanical engineering, civil engineering, etc., side by side with that in the pure sciences and humanities, and of fostering equally, as far as may be, all lines of work included in the plan of the university. To this end the technical departments of the university will not constitute a separate school, or series of schools, but will be brought into closest union with the departments of pure science and the humanities, and the regulations which govern one set of students will be in all respects applicable to the others. It is not intended to lay any stress whatever upon one group of subjects that is not laid on any or all others which are recognized as part of the scope of the university. No study will be favored because of its supposed practical usefulness, and no study will be favored because of its traditional relation to the curriculum. That is to say, each subject will have whatever place it is able to make for itself, and there will be no recognition of superiority on the part of the student of the ancient classics over the student in the technical schools, or over the student who may devote himself to studies in modern literature, pure science, or political and social affairs.

In the matter of entrance requirements it has been decided that the same entrance examination will admit the student to all departments of the university alike. In other words, the purpose of the examinations is to test the fitness of the candidate to enter upon college work, and not to test the degree of his competence to meet certain arbitrary or traditional requirements. The standard of admission is kept at the level attained by the best high and preparatory schools, but the largest liberty of substitution is permitted. Thorough preparation in science, modern languages, literature, or history is given the same value as thorough work in ancient languages or in mathematics, while superficial work in any subject will be rejected. The entrance requirements provide that the student shall be prepared in any ten of the following subjects, some of them involving one, two, or three years, according to the degree of advancement:

1. English.
2–3. Elementary Algebra.
4. Plane Geometry.
5. Solid Geometry and Trigonometry.
6. Advanced Algebra.
7. Physics.
8. Chemistry.
9. Physiology.
10. Botany.
11. Zoölogy.
12. Freehand Drawing.
13. American History.
14. English History.
15. Grecian and Roman History.
16. English Literature.
17. Spanish.
18–19. French.
20–21. German.
22–23. Latin.
24. Latin.
25–26. Greek.

In the arrangement of the courses of study two ideas are prominent: first, that every student who shall complete a course in the university must be thoroughly trained in some line of work. His education must have as its central axis an accurate and full knowledge of something. The second is that the degree to be received is wholly a subordinate matter, and that no student should be compelled to turn out of his way in order to secure it. In other words, no work in itself unprofitable to the individual should be required of him in order that he may secure a degree. This leads naturally to the discarding of the conventional college curriculum; for any curriculum that can be made up is calculated for the average

student and not for any individual student, and every college curriculum implies a large amount of waste, either through taking unprofitable subjects or subjects which are undesirable for the culture of the individual student, or else through taking desirable subjects under unsatisfactory teachers. As I have said elsewhere, in a paper on the general education of the physician, there is a tremendous waste of the student's time unnecessarily involved in the old-fashioned prescribed courses of study, or in any course of study inflexibly prearranged. "This waste is threefold. The time spent on subjects in no wise concerned with the future studies of the student, thoughts which form no part of his culture; second, the time spent on subjects for which the student has no aptitude, from which he derives not the strength gained by mastery, but only the aversion felt for the unwelcome task; and third and greatest of all, the waste of subjects taught by dull teachers, dry, dreary, or mechanical, from whom the student received nothing, because there was nothing in them to give." "Those of us who have been through the prescribed course of the college have run the gauntlet of all these parasites on higher education. Only he who is familiar with the life of college boys can realize the great waste connected with work in wrong subjects under wrong teachers, and no one can estimate the number who have been repelled from the college by one or both of these influences. Many of those who remained to the end did so because their college lives were spent in the atmosphere of good-fellowship, not because they were attracted by their teachers or the work they were set to do."

In the arrangement adopted in the Leland Stanford Junior University the elective system is subjected to a single check. In order to prevent undue scattering, the student is required to select the work in general of some one professor as major subject or specialty, and to pursue this subject or line of subjects as far as the professor in charge may deem it wise or expedient. At the same time the professor in charge of the major subject becomes the student's official adviser. He is allowed certain authority in the prescription of studies to be

pursued as minor subjects, and may thus complete or complement the work in the major subject which the student has chosen. This arrangement has an advantage over the elective system pure and simple, in requiring of every student such a degree of thoroughness in some one line that he becomes in some degree an authority in that direction. He has by this special work a base line, by which he is able to measure the attainments of others and his own attainments in other directions. By making the professor in charge of the major subject the official adviser of the student, the latter is enabled to secure the help which experience should give; and it is found, as a matter of fact, that the courses of study selected by students for themselves, the power of responsibility or self-direction being in their own hands, is better capable of defense than any prescribed curriculum which could be placed before such a student. The element of consent on the part of the student is regarded as of high importance in the development of scholarship, as that of self-direction is in the formation of character. It is better for the student that he should sometimes make mistakes than that throughout his course he should be arbitrarily directed by others. Each one of the different departments in the university has, therefore, its own course so far as major subjects are concerned, and the minor subjects required of each student are not arbitrarily joined to the major subjects, but can be varied indefinitely as the needs of the students demand.

In order that all courses and all departments may be placed on exactly the same level, the degree of Bachelor of Arts is given in all alike for the equivalent of the four years' course. Should the major subject, for instance, be Greek, then the title given is that of Bachelor of Arts in Greek: should the major subject be Chemistry, Bachelor of Arts in Chemistry, and so on.

It is the purpose of the university to treat all departments alke, to furnish the best instruction and the best appliances available for work in all, and to leave all questions of the relative value of studies to the student himself and to the adviser whom he has chosen. A single subject, English composition,

is now required of all students in whatever course. The purpose of this is simply that the university may have some opportunity of testing the efficiency of the work in the lower schools, and those students who are found to be satisfactory in this respect are excused from any further work in the art of writing. This, and all other required work, is regarded as belonging to the lower schools, and all students who need such studies in the university are simply insufficiently prepared for the college work.

This arrangement of study is based on that in use in the University of Indiana, prepared in 1888 by the writer and his colleague at that time, Dr. H. C. G. Von Jagemann, now of Harvard University. It was based on an attempt to relieve the college of the prescribed curriculum and to put all departments on a common level, while retaining the element of the requirement of thorough work in some special line, which is the chief virtue of the conventional classical course. In this work the courses taken as a basis were those of Johns Hopkins University. This modification, however, was introduced,—that the minor subjects or collateral requirements should not be fixed, as for instance chemistry being made a collateral in the case of all students in biology, but that these collateral studies should vary with each individual student and should be arranged for him by the professor in charge of his specialty. This system has worked well in the University of Indiana for the last five years, and like every other form of the elective system its results in practice have been wholly satisfactory, whatever may be the theoretical fears which are professed as to the inability of students to make their own way through the courses of study offered in the university.[1] The average student finds a better course of study for his own development and his own purposes, than any consensus of educational philosophers can possibly make out before becoming acquainted with him.

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[1] A statistical study of the results of this system is printed elsewhere in this issue.—[EDITORS OF THE EDUCATIONAL REVIEW.]

II.

THE TEACHING OF GEOGRAPHY.

WHAT TO AVOID IN TEACHING GEOGRAPHY.

The sub-title given to this paper expresses, as briefly as possible, the general considerations that I wish to present in contrast to those discussed in my first article.[1] The theme then was, in effect: What should the teacher know? The conviction that he should be informed far beyond the limits of his teaching was illustrated by bringing forward a number of specific examples of the kind of facts that I think every live teacher should have in mind. I shall now consider the opposite side of the question—What is unnecessary, or unimportant, or injurious in geographical teaching? The undesirable elements encountered to a greater or less degree in teaching geography, are divisible into superfluities and errors. I shall consider a number of these in order.

In my first paper, the chief emphasis was given to the importance of storing the teacher's mind with facts and explanations on the physical side of geography; not that other sides should be overlooked, but that I found space for illustration of only one division of the subject. It should now be repeated, as was then said, that knowledge of this kind is not to be discharged by the teacher in a flood, overwhelming the pupils before they can appreciate it; but that it should be presented only when called for, piecemeal, slowly, and chiefly in the way of illustrating or explaining subjects that are more directly pertinent to the usual routine of the study. It is perhaps not often that teachers of geography should be advised to husband their information; and yet I can believe that a well-taught beginner might over-task his class with an exuberance of illustration, making the geographical diet too rich for his pupils. An excess of precision is also to be avoided; minuteness of

[1] EDUCATIONAL REVIEW, III: 417.

knowledge is not to be expected in children. Strong, broad descriptions are preferable, in which the chief elements of form, area, climate, resources, and population are linked together in a natural and effective way, and emphasized by illustration, whereby the essentials are easily remembered by pupils of ordinary ability. Over-zeal, leading to excess in quantity or precision, is characteristic of first efforts, when the facts of the subject have not taken positions proper to their relative importance. There is a want of perspective in such teaching; matters of detail are brought forward and confused with larger matters of much greater importance; but with practice this mistake disappears. It is not a mistake of the kind we are apt to suffer from; and I mention it chiefly because it might at first naturally follow from the acceptance of the advice already given, to the effect that teachers should be widely informed before beginning to teach.

In contrast with this, I may mention a mistake of quite another kind, and probably the most serious of the difficulties that now afflict geography. This comes with teachers whose preparation is insufficient. They feel their weakness. They see necessity of strengthening their teaching, but not possessing the elements of strength in themselves, they try to borrow, and then too often add difficulty instead of value to their instruction. It is for this reason that there is so much useless memorizing in the study of geography. It must be very stupid work to both teacher and pupils. A teacher, well informed on the subjects introduced briefly in the text-book, would feel choked if he had no opportunity of bringing in appropriate side-illustrations and explanations. A teacher not well informed, has no sufficient fund of illustrations with which to refresh the tiresome facts of the page, and therefore they alone constitute the subject of his teaching. Too great stress is then necessarily laid on *verbatim* recitations, for there is nothing else with which to occupy the time. This is a sad difficulty, and it attends poor teaching in all subjects. I know of a case in which a teacher of history, feeling that his class was not doing work enough, required each student to memorize the

names and dates of the Popes, in order to give more body to the class work—a poverty-stricken expedient. I have been told of another case in which a class in geology had to recite from Dana's *Manual of Geology*, word for word—a most shocking misuse of that excellent compendium. Is there, however, any subject in which this error is so common as in geography? It is not only the fault of the teachers. Many text-books are evidently prepared with the idea that every word is to be learned. How, except by rote, could a scholar make intelligent report of such a paragraph as this, extracted from a well-known English text-book of physical geography:

> The Danube receives a large number of tributaries, of which the most important are, on the right, the Isar, Inn, Raab, Drave, Save, Morave and and Isker. On the left are the Altmühl, Regen, Waag, Gran, Theiss, Temes, Aluta, Sereth and Pruth. Many of these are large streams with other important tributaries. The Danube drains upwards of 300,000 square miles of country.

Pages could be filled with quotations of that kind; yet to what do they lead? If it be conceived that anyone should ever wish to know facts so unimportant, let them be learned from the map, where they are more expressive than in a printed list. If it is important for the tributaries of all rivers to be stated outside of the maps, place them in tabular form, and utilize the space thus gained by inserting something worth remembering about one or another of the examples; something that is not better presented in maps or tables. It is sad to think of children being perplexed with such stuff as is given in the above quotation; yet the book from which it is taken reached a fifth edition only twenty years ago.

It should be noticed that the correction of this error does not lie so much in the substitution of one text-book for another, as they are now constituted, but in the improved use of books by giving less attention to the unimportant paragraphs. This correction is in the hands of the teacher; he must, from his own knowledge, aided by wall maps and the school library, relieve the monotony of text-book teaching. If I should con-

dense into the fewest words the intent of this part of my argument, they would be: "Avoid *verbatim* recitations; put something of life and nature into teaching."

Between the two extremes of superabundance and barrenness, a middle path must be selected by experience and good judgment. Facts that appear isolated must be bound together in their true relations; trivial matters must be lightly passed over; chapters of importance, in which the class finds difficulty, must be kept in hand and expounded till familiar. The best results of such a method can be gained only by a judgment so good and an experience so long, that nothing but the truly professional spirit of teaching, entered on as a life-work, will insure the improvement that we all desire and are striving for.

Lest some might misinterpret what I have just said, to mean that all memorizing of the facts of geography should be omitted, I must state explicitly that in geography, as in spelling, there seems to be no way of avoiding a large amount of memorizing, if the pupil is to have a sufficient fund of information with which to extend his own experience in later life. The labors of English spelling can be lightened by grouping words of similar derivation, as I used to learn them in my *Scholar's Companion*; but I cannot imagine any method by which the labor of learning to spell can be entirely done away with. So with geography; it is essential that every child should learn the names and positions of the larger geographical elements; but to learn them simply as recitations of words printed on the map is a fatal mistake. Several years must be included in the geographical course, during which the world has to be gone over and over, with more care and thoroughness at each repetition, before the familiarity that we all should have with it can be gained. This labor cannot be omitted; but it may be lightened by judicious illustration. Still, there is no royal road. I have no recipe by which all but the easy parts of the subject can be omitted and yet have the pupil well taught. Wide information on the part of the teacher and attentive effort on the part of the pupil, are essen-

tials to success; but the labor thus thrown on both need not be dull and stupefying.

How shall the teacher know what need not be taught? What are the unessentials in the routine work of geographical teaching? We may learn something here by asking one another a series of questions that children may have to learn at school. The small value of some of the questions is not so well indicated by our having forgotten the answers, as by our not caring if we have forgotten. It is natural enough that many things learned at school should be forgotten afterward when the mind is occupied with other things. It must not be inferred that Latin and Greek should not be studied in school, because they are afterward forgotten; we are sorry enough if we cannot translate from the ancient languages when we meet them in words or passages. But this is not the case with the names of the branches of the Danube. Who cares whether he can at call repeat them in order? He may know that the Inn comes in from the Alps and the Theiss from the plains of Hungary; the others may be looked for on a map, if they are wanted. It is this indifference to the facts of routine geography that tells us of their small value. It is the easy recovery of them, when desired, that makes the memorizing of their names so useless. They appear clearly enough on the maps. Leave them there till wanted, and select from the many a few about which something more than a name can be given; not that name and incident both need to be learned by heart, but that the incident supplied by the teacher serves as a little barb to hold the fact in the memory. If the teacher, with all his preparation, has no incident or illustration pertinent to the facts, let them pass hardly noticed; if they are so unimportant that he knows nothing more than their name and place, as given on the map, and as anyone might know them, in spite of his having given time to careful preparation on the various sides of geographical study, then omit them and turn the attention of the class to something that he can tell more about. It may be that the choice of subjects made by the teacher will not always include the most important places and subjects;

but it should at least include the things he can best teach; and, as such, the things of the highest value to the class under his instruction.

The incidents, illustrations, and explanations to which I have repeatedly referred should be introduced not only to help the pupil's memory, but also to increase the reality of the subjects that are studied. Take care that the names learned from the text or the map represent places and things, and not words or lines. We have all heard of the man who confessed that his chief recollection of Austria was as a red patch on the map hanging on his schoolroom wall. Last summer I heard of a similar example. A little boy was watching his aunt draw and color a map of the United States; when Ohio was reached and a blue tint given to it the boy exclaimed, "Ohio is not blue; it is green." Emphasis in his teaching had been given to the unrealities of geography.

There is now less reason than existed formerly for urging the postponement of astronomical and mathematical geography till the later years of study. Teachers are pretty well agreed that a beginning must not be made on the unseen, but on the visible facts and forms of the school district. Still, even young pupils may at an early age become familiar with the earth as a globe, with the idea of passing over its great rotundity and reaching one land after another. It is not this so much as the ideas of poles and equator, latitude and longitude, that may well be delayed till the general distribution of lands and oceans is learned. The seasons, the noon altitude of the sun, the varying length of the day and night, are subjects that can be best taught by observation. Let the members of the class be required to contribute records for a school journal, to be kept continuously for a number of years. Let them thus accumulate facts from which they may discover for themselves the dates of high and low sun, of long and short days. Do not rob them of the opportunity of discovering simple correlations, as open as these are to elementary investigation. Let them study out the phases of the moon. From the records thus obtained, ask a class if they can tell how much farther away

the sun is than the moon. If the school is on tide-water, let it be the duty of the members of the class in rotation to detect the time and height of high and low water, and correlate these changes with the movements of the moon and sun. Let them thus learn the important lesson that the world is wide open to their individual study, and that great reward follows the attentive use of their opportunities. The quantity of facts secured may be in the end less that those recited in a few days, parrot fashion, from an unmeaning page; but the quality of the facts learned by individual observation more than makes up for their lessened quantity.

Directly in connection with the above, is the suggestion that technical terms should be delayed until the ideas that they represent have become familiar from observation or description. Leave definitions, which always represent generalizations, until the mind is familiar with the facts that call for comparison and definition. Avoid the appeal to authority as justification for any statement, unless good reason goes with it. Do not often introduce personal authority in elementary teaching. For example, do not say, "In Ganot's treatise on physics, as edited by Professor Atkinson, the following remarks are made on this head;" or "Mr. R. H. Scott gives the following statements from Mohn's treatise." All these names are excellent sources for quotation; but young pupils should not be troubled by the interruption of the ideas that such sentences cause. This appeal to authority tends to subordinate exactly the spirit of rational independence that should be encouraged. If the statements that are to be quoted are not self-explanatory, their explanation, but not their authors, should be given.

Avoid hobbies. Do not be too methodical, too logical. Do not try to compress the variety of nature into rigid and artificial concepts, types, and diagrams. Generalization is, of course, an important aid in expressing the recurrence of a series of similar phenomena; but when it becomes more complicated than the phenomena themselves, it is of no value. For example: "Land may rise from and above the river bed; then

there will be two slopes within the two slopes which form the river basin, and, consequently, there will be two lines which bound the two slopes that rise above the river bed." It is hardly worth while to go roundabout so far in order to say that rivers may include islands between their banks! An excess of logical demonstration of elementary matters will not infrequently leave the teacher behind the class. Children do not care much for argument, but prefer acquisition, and are willing enough to accept anything within reason. Vivid description and appropriate explanations need no enforcement by a constructed and visibly logical method.

Be careful of hasty generalizations. While the smaller continents possess simple slopes from their mountain axes to the sea, the largest of the land areas contains so great an interior basin that it should not be overlooked even in the most elementary presentation of continental form. Do not jump too rapidly to conclusions. For example, it is not safe to say, "The lack of long and broad slopes is the plain reason why Africa remains for the greater part in barbarism." Do not over-emphasize trifles. Leave to rival book agents the trivial dispute about the particular lakelet in which the Mississippi rises. The general plan of a book is a thousand times more important than its citation of the latest census reports. Grasp and teach the spirit, not the letter.

I shall add but a few paragraphs on geographical errors. Most of these are found in the divisions of geography that are concerned with explanation of phenomena; that is, in meteorology and oceanography. In these subjects, the textbooks are nearly always behind the times.

The tides are too difficult to introduce into early teaching, except in a descriptive way. The usual account of the tide opposite the moon is nearly always defective. A case may be quoted in which an author rather incredulously says: "There is a great pulsation of the entire ocean, called the tides, which is supposed to be the yielding of the water of the globe to the attraction of the moon on the side nearest the moon, and the holding back of the land from the water, on the side farthest

from the moon;" and then adds naïvely in a footnote: "This explanation has never seemed quite clear to me in presenting it to children, and it seems to me possible that science has not yet fully explained the tides." It is useless to attempt to explain the tides without at least an elementary knowledge of mechanics. They may be described and good reasons discovered for referring their rise and fall to the joint action of the moon and sun; but their explanation had better be omitted than travestied.

The winds are seldom adequately treated in the ordinary text-books. It is generally said that the air around the equator is heated and rises; then the colder air on either side rushes in to fill the vacuum thus formed. This is as if one should say a lever rises under a weight to fill the vacuum caused by the ascent of the weight. The general circulation of the atmosphere is referred to the differences of temperature between the equator and poles; and on this basis, a tyro in physics will predict the occurrence of low pressure around the equator and high pressure about the poles; yet in the charts of atmospheric pressure often introduced into the recent books on physical geography, the pressure around the poles is found to be low and not high. Any independent pupil would be justified in rejecting a theory which was apparently so soon discountenanced by the facts.

Rain is nearly always wrongly explained. It is referred to the mixture of two masses of air, both saturated with vapor, but of unlike temperatures; an inadequate and extremely unlikely process. It is referred to the cooling of ascending currents of warm lower moist air by the cold of the upper regions, or by the cold of the mountains on their path; but the main cause—the spontaneous cooling by expansion of ascending currents—is either half-mentioned or altogether omitted. The easy belief in the artificial production of rainfall by explosions naturally follows from the imperfect teaching of this subject.

The influence of the earth's rotation on the course of the winds, the ocean currents, and rivers is hardly ever properly

presented. There is always either the implication or the direct assertion that bodies moving east or west are not deflected from their course, and that the turning to the right or left, in one hemisphere or the other, is found only in motions along the meridian. This is all wrong. The deflective effect of the earth's rotation is independent of the direction of motion. It is as great on a motion to the east or west as to the north or south. It is least near the equator, where it is generally referred to; and greatest near the poles, where its action is seldom mentioned. The usual reference to the lagging of the trade-winds, as they move toward the equator and reach latitudes of faster eastward rotation, would, if logically carried out, warrant the belief that friction with the earth's surface prevents the lagging of the winds, and that their oblique course must be accounted for independently of the earth's rotation. The reader may, if he wishes, see the disastrous consequences of this argument in Laughton's *Physical Geography of the Winds and Currents*, an English work of good standing; but one in which this particular subject is topsy-turvy.

How shall the earnest teacher avoid such errors and superfluities as I have mentioned? There is only one way, and that is to study and think untiringly. It is indeed unfortunate that a simpler prescription cannot be given to overcome the difficulty that many a teacher would be gladly be rid of. Something will be done by the introduction of better and better text-books and works of reference; more will be done if school boards can be prevailed upon to give teachers sufficient leisure to consider and plan out their heavy tasks. But the burden of the work of improvement lies with teachers themselves.

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III.

VALUES IN THE EDUCATION OF THE DEAF.

A child born deaf remains, unless especially trained and instructed, wholly ignorant of verbal language. This verbal language, which comes in vocal sounds to the normal child through his faculty of hearing, reaches the deaf child only through his vision, and always in silent signs and characters—whether these be movements of the hand, which are called gestures, or of the mouth, which may be termed articulations, or are forms and pictures on the printed or written page.

It is impossible for one born deaf, or one who has become totally deaf in early childhood, ever to gain an adequate apprehension of speech, as this human faculty is used and enjoyed by normal persons. To the deaf, no matter how adept they may become in understanding the import of speech, by observing closely the oral and facial movements of those who speak, oral utterance must ever lack the life-giving quality of sound with all its attendant effects of eloquence, pathos, sympathy, sternness, persuasiveness, humor, and the like. And yet, strange as it may seem, this truth, so easily seen to be evident, was not only ignored by the man who stands in history as the founder of oral teaching for the deaf, but the preposterous claims were made by him that in mental development (1) "the defect of hearing cannot be supplied by the medium of vision," and (2) "abstract ideas cannot be infused into the minds of the deaf and dumb by any process of writing or with the assistance of methodical signs."

Samuel Heinicke (1729—1790) began teaching the deaf in Dresden in 1755. His bald errors, on which he based his claims that the education of the deaf could *only* be effected through the aid of speech, he acknowledged later, and renounced. None of his many admirers and disciples have ever

ventured to sustain the false principles with which he started out, and yet the spirit of those errors seems to have remained among those who advocate the oral method exclusively; for it is not unusual for them to make such assertions as these: the deaf can learn to use speech as hearing people do; all the deaf can be taught to speak; only through the teaching of speech may the deaf be restored to society; by employing the oral method, the disability of deafness may be practically removed. None of these statements expresses the whole truth. They are at most nothing more than half-truths, more pernicious in their effect than untruths, because more easily misleading.

During the same year in which Heinicke began his work as an oral teacher of the deaf, the Abbé de l'Epée (1712–1789), of deserved renown as a philanthropist and as the founder of the manual method, established a school at Paris in which there were soon gathered a considerable number of deaf children. The methods of De l'Epée were based on a principle diametrically opposed to that with which Heinicke started out. De l'Epée adopted the principle that written characters and ideas may be connected together without the intervention of sounds, as in hieroglyphics; that if sounds are not essential to render written characters intelligible, no more are they to explain gestures or signs.

The limits of this article will not allow any extended description of the methods pursued by the founders of deaf-mute education in Germany and France. It can only be said that while Heinicke made oral teaching, which is always artificial and painfully difficult at the beginning, his *point d'appui*, using pantomime gestures only to a very limited extent, and in a crude form, because no effort was made to improve and perfect them, De l'Epée found a much broader and much more secure footing, in a means of communication at once natural and encouraging—that language which he took in a double sense from the hand of the deaf-mute himself; and he added, as the work of instruction went on, such oral teaching as seemed desirable and practicable.

The German, serving a false philosophy and striving against nature, sought to build an inverted pyramid, which, as will be shown, has always stood insecurely and liable to fall; while the Frenchman, true to sound science and working with nature, has reared a structure certain to endure because of the depth and breadth and strength of its foundations.

In 1760, Thomas Braidwood (d. 1806), of a distinguished Scotch family, began the teaching of deaf-mutes in Edinburgh. His school attained great celebrity, drawing to it pupils not only from all parts of the United Kingdom, but from the American Colonies. Dr. Johnson, in his *Journey to the Hebrides*, speaks of Braidwood's success with his pupils in terms of glowing admiration, and gives an extended and interesting account of a visit to his school. Braidwood taught many deaf-mutes to speak well, and made a greater use of manual methods than Heinicke; but he fell far short of De l'Epée in his development of the language of gestures.

De l'Epée, Heinicke, and Braidwood will hold places in history as *facile princeps*, each in his respective country, in the humane work of the general education of the deaf. But the charitable Abbé was the only true philanthropist. His methods were open to the world. He not only declined to enrich himself, even from such of his pupils as were wealthy, but gave his own private fortune to the cause which commanded his heart.

The history of the work of Braidwood in behalf of the deaf of Great Britain and Ireland is full of evidences of a mercenary spirit. From the first it was made a family monopoly. Large sums were demanded for a knowledge of the art, and the few to whom it was taught, outside the family, were placed under bonds so heavy as to be practically restrictive, not to teach others. As late as in 1815, when Dr. Thomas Hopkins Gallaudet, the founder of deaf-mute education in America, was seeking to prepare himself, in Europe, for his work, the narrow and self-seeking policy of the Braidwoods closed the doors of every school in Scotland and England against him and compelled him, after the loss of many months of valuable time, to seek in France the instruction he needed. The monopoly of

teaching the deaf continued in the Braidwood family for fifty-nine years, during which period only three institutions of a public character, for the deaf, were established in Great Britain, while, within twelve years after the expiration of the restrictive bonds, eight new schools sprang into existence, two in Scotland, two in Ireland, and four in England.

The merits of the two principal methods, the manual and the oral, have been earnestly pressed by their respective advocates from the earliest times down to a very late day, and controversies over them, always warm and sometimes bitter, as was the case with Heinicke and De l'Epée, have recurred with varying frequency. So long as the question was which of the two should prevail to the exclusion of the other, small progress was made toward a settlement. But within a few years a conciliation and combination of methods have been shown to be both practicable and desirable, and it is in the union of elements, once thought to be necessarily antagonistic, that a careful consideration of "values" in the education of the deaf becomes important.

Professor Fay, of the National Deaf-Mute College, editor of the *American Annals of the Deaf*, defines the two methods as follows:[1] "In the manual method, the sign language, the manual alphabet, and writing are the chief means used in the instruction of the pupils, and the principal objects aimed at are mental development and facility in the use and comprehension of written language. The degree of relative importance given to these three means varies in different schools; but it is a difference only in degree, and the end aimed at is the same in all."

"In the oral method articulation and speech, reading, together with type-writing, are made the chief means of instruction, and facility in articulation and speech-reading, as well as mental development and written language, is aimed at. Signs are used as little as possible, and the manual alphabet is generally discarded altogether."

The single objection to the exclusive practice of the manual

[1] *American Annals of the Deaf*, January, 1891.

method is that under it no provision is made for the teaching of articulation and speech-reading to that very considerable proportion of the whole number of the deaf who are indisputably capable of in these very valuable acquirements. This objection is a serious one, and yet it is true that under the manual method, with oral teaching entirely omitted, the intellectual, moral, and religious training of the whole body of the deaf can be effected much more easily than under the oral method. Industrial teaching can be readily given, and the children, as sent out from the schools, are capable, with very few exceptions, of supporting themselves and of living happily and reputably in the communities to which they are returned, even though they are limited, in their communication with the hearing, to writing, signs, and the manual alphabet. The lack of speech is an inconvenience, but by no means an insuperable barrier to success in business or the attainment of happiness.

The objections to the exclusive practice of the oral method are more numerous and radical. First, and most serious of all, is the fact that with a large number of the deaf it utterly fails; that with another very considerable portion a degree of success is attained so limited as to be little better than failure; that it can be said to really succeed with not more than one-third of the whole number demanding education.

But it is not alone because it must necessarily fail with a majority of the deaf that the oral method is open to criticism. Although, as is intimated in Professor Fay's definition, signs are used to a limited extent in some oral schools, the tendency in the practice of the oral method during the last few years has been toward the entire abandonment of the language of gestures. Teachers in oral schools are not required to have a knowledge of signs—indeed, it has usually been preferred that they should know nothing of the natural language of the deaf, in the mistaken belief that the ability to understand and use it would impair their efficiency as teachers of speech. No better exponent of these sign-abolitionists can be found than Arnold, recently deceased, the director for many years of

the institution at Riehen, near Basle, who says: "As long as signs are found to exist in schools for the deaf, so long the entire cause of deaf-mute education will suffer with a cancer which will sap the marrow of oral instruction."

This disposition on the part of the oralists of recent date to undervalue and reject the sign language demands more than a passing notice. I say oralists of recent date, because the testimony and practice of some of the ablest teachers of the earlier days, men unsurpassed by their successors in learning and ability, was strongly in favor of the use of gestures, even in schools where the aim was to impart speech to the greatest possible number.

Much more testimony could be given from the older teachers of the deaf in Germany, the birthplace and stronghold of the oral method, in favor of the use of the language of signs, and against the policy of the pure oralists of to-day, who in this country, as well as in some parts of Europe, advocate the suppression of signs altogether.

The claim has been made by the promoters of the pure oral method, that in recent years great improvements have been made in Germany and elsewhere, leading to much more satisfactory results. But this is denied in many quarters, and in the publications of Mr. J. Heidsiek, an instructor of experience, now living at Breslau, much is said to prove the unsatisfactory character of a great deal of the oral teaching going on at present in Germany. In a personal letter received a few months since, Mr. Heidsiek, referring to a visit I made to Germany in 1867, says: "I assure you, if you should take the same journey again, your judgment as to methods would be exactly as before. The deaf-mute institutions would present themselves to you in greater numbers and in more elegant garb, but in the method of instruction you would scarcely discover a difference or progress worthy of mention. The results of the German method rest for the most part on appearances. It makes an overpowering impression on the layman when he hears from the mouth of the deaf mute a few intelligible words; but of what use is this artificial work to the

life of one deprived of hearing if he is without the most scanty knowledge, and is not also able to make himself understood in the least in writing? The German school at present lays the whole stress upon articulation; with unspeakable tortures the effort is made to force the deaf to speak in pleasant tones, and to read from the lips what is spoken; and in this scarcely any progress is noticeable. Out of a hundred deaf mutes there are not five who could take part in a conversation with hearing people, whose speech could be understood, and who would be able to read from the lips with accuracy."

But the discussion of this topic would be very incomplete were no mention made of the opinions of manual teachers. Indeed, they are the only fully competent witnesses in the case as to the value of gesture language, for they alone, by the admission of their German brethren, among whom the sign-language, as acknowledged by one of the most eminent, is "limited to hap-hazard culture"—they alone know what the language is in its full development; they alone have taken pains to master it, and to acquire a faculty in its use equal to that enjoyed by the deaf themselves.

Dr. Gallaudet, in his last official report as principal of the school he founded at Hartford, a report made in 1830 after fourteen years' experience of practical teaching, discusses the importance of the early establishment of a full and free means of communication between teacher and pupil. Convinced that this cannot be found in any form of *words*, whether spoken or written, for a very long time after the pupil has entered school, he turns to gestures as affording a means of communicating thought at once natural, even spontaneous, to the deaf child, and easy of acquisition and devolopment by the teacher. He announces the principle on which the method pursued in his school is based to be the elevation, to as high a degree of excellence as possible, of the natural language of signs employed by the deaf and dumb, so as to make this language itself a complete medium of communication between instructor and pupil on all subjects.

Some years later Dr. Gallaudet published his views on the

"Value of the Language of Signs in the Education of the Deaf," in a series of articles contributed to the *American Annals of the Deaf*, vol. I., Nos. 1 and 2, 1847, which are commended to those wishing to pursue the subject.

Not a few young deaf persons have come under my observation, whose education was begun and continued for several years in oral schools in which the use of the language of signs was forbidden, but who had opportunities later of acquiring and using it. These persons have assured me that the knowledge of this language, and freedom in using it, gave their mental life a new phase of activity and growth as delightful and helpful as it was surprising. They looked back with bitter regret to their early school-life, from which, with a mistaken and ignorant kindness amounting to cruelty, that element had been stricken out, which Hill, one of the most eminent German oralists, accepts and uses as "the one in which the mental life of the deaf mute begins to germinate and grow; the *only* means whereby he, on his admission to the school, may express his thoughts, feelings, and wishes."

It would be interesting, did the limits of this article permit, to show the similarity between the Chinese language and that of gestures, as suggested by certain writings of the eminent missionary among the Chinese, Dr. Morrison, and to refer at some length to a remarkable treatise by the great French philosopher, Condillac, on the language of action, which, he argues, was man's first means of communicating thought. Equally interesting would it be to cite the opinions of Tylor, the well-known English writer, on the development of civilization; of Valade, the accomplished French instructor of the deaf; and of De Haerne, the learned Belgian statesman, lately deceased, who wrote ably on the natural language of signs; of still greater interest, in certain points of view, to consider the scholarly writings of Colonel Garrick Mallery, of the National Bureau of Anthropology, on the language of signs as developed among the American Indians—essays which have always commanded the admiration of instructors of the deaf.

The best results in the education of the deaf can be obtained,

not by the exclusive practice of either the manual or the oral method, but by making use of both, in such combinations as may be most practicable, and adding aural teaching for such children as possess a degree of hearing sufficient to comprehend articulate sounds.

There are in the United States and Canada at the present time eighty-four schools for the deaf, in which 9652 pupils are receiving instruction. Of these schools thirteen, having 402 pupils, are conducted on the manual method; nineteen, containing 1104 pupils, follow the oral method, while fifty-two, containing 8146 pupils, are conducted under the combined system. Considering that this system prevails in sixty-two per cent. of the schools, containing eighty-five per cent. of the pupils now under instruction, it may justly be called, as it often is in Europe, the American system.

In effecting the combination of methods under this system, circumstances suggest, and often compel, differences of detail. The most satisfactory arrangements are possible in large schools, where each method may find its proper subjects in sufficient number for advantageous classification. No more favorable conjunction of elements in a single establishment could possibly occur than exists at present in the Pennsylvania Institution at Philadelphia, the second in point of numbers, and third in age, in the country. With its 500 pupils, and a corps of officers and teachers unsurpassed in ability, experience, and skill, this school will in a few months be removed from crowded buildings in the heart of the city to a fine estate of sixty acres in the suburbs, where, at a cost of nearly a million of dollars, a commodious and beautiful group of buildings has been erected, in which a division of the pupils into primary, intermediate, and advanced departments will be made, with an oral school quite distinct from all the rest. Industrial teaching will be provided for, as also special physical culture in a large gymnasium. Under a management at once progressive but cautious and severely practical, each method will be given its full opportunity; the sign-language will be accorded the position and respect it deserves, but will at the same time

be used with judgment, and the half successes in articulation will be promptly transferred to that department in which they can be more advantageously trained.

In this model school the combined system will exist in a form worthy to be imitated wherever the numbers under one management are sufficiently large to warrant similar divisions into departments. In smaller institutions, or in those of large size where buildings already erected do not admit of the adoption of the Pennsylvania plan, the combined system may be, and is in many well-ordered schools, operated with results far more satisfactory than is possible in a school wedded to a single method.

Among the nineteen in which the oral method prevails, and in which the sign-language is unwisely prohibited, there are those in which earnest, faithful, intelligent work is done, and where the results in many individual cases are most commendable, sometimes even brilliant. But many children are retained in them that never succeed in speech, and who would derive far greater advantage under the manual method. In all these oral schools the sign-language, in spite of rules against its use, is a constant means of communication among the pupils.

The marked success attending the operation of the combined system in this country has attracted attention in Europe, and when, a few years since, a Royal Commission was appointed in England to inquire into methods of educating the deaf and other special classes, witnesses were summoned from this country to furnish full information to the commission as to the workings of our American schools. The advantages of the oral method and the combined system were presented by competent witnesses, and their testimony was published along with the report of the commission. The managers of a new school about to be established at Preston, England, made a careful study of this testimony, and were influenced by it to adopt the American combined system, in spite of conditional offers of considerable sums of money from promoters of the oral method in England. I am satisfied that the policy of the managers of this English school would

be generally followed in the organization of new schools for the deaf, if those who have the responsibility of their establishment would study the subject of methods as intelligently and as impartially as it was considered at Preston. And I am equally convinced the day is not distant when the combined system, broader than any method, because including all, will be accepted even in the country of Heinicke, where the narrowness and insufficiency of his method are shown by such a vigorous writer and so unimpeachable a witness as Heidsiek.

To sum up the "values" in the education of the deaf, it may be said: (1) that the language of gesture should never be banished from any school; (2) that all who undertake to teach or train the deaf should master this language; (3) that, at the same time, gesture language should be regarded as a means, never as an end; (4) that a careful and prolonged effort should be made to teach every child to speak; (5) that the education of everyone found capable of acquiring speech should be so conducted as to promote facility in speech to the highest degree possible, without sacrificing those other objects of education which are admittedly of more consequence than speech; (6) that every child found incapable of success in speech should be taught by the manual method; (7) that moral training should be carefully attended to, and that religious instruction of an undenominational character should be afforded; (8) that industrial and physical training should have prominent places; (9) that artistic ability should be carefully fostered and encouraged; (10) that wherever sufficient hearing remains to distinguish articulate sounds, pains should be taken to train and develop this faculty, so that, if possible, it may become a channel of intelligent communication, and (11) last, but by no means of least importance, that all teachers of the deaf should be highly educated persons, carefully trained for their profession, and should possess in no small measure that disposition which "is not easily provoked," which "seeketh not her own," but "endureth all things" and "is kind."

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IV.

NOTES ON EDUCATIONAL METHOD

I

In education, effective methods are necessarily based upon rational principles and not upon empirical laws. The reason is obvious. Experience comes too late. Instruction must be individual. The opportunity for application passes with each acquisition of experience, leaving behind it only the shell of wisdom. It is necessary, therefore, to consider where the constants of pedagogy, the rational principles underlying educational practice, are to be sought.

I assume, of course, that mere mechanical application of formulas is recognized as hostile to organic growth of the school system. The formalism that occasionally obtains cannot exist for a long time in the same place. It restrains and galls until it is forcibly thrown off, or until the organism is destroyed. Evidently, no principles of education, no laws of development would be found in a thing that does not develop. If we could study microscopically and quantitatively the minds of a few progressive and successful teachers, we should doubtless find suggestions of great value. Although this is practically impossible, there is something very like it that is quite within the power of any honest and persistent young teacher. To study other minds is much more difficult than to investigate one's own mind. I therefore suggest that the teacher's own consciousness is worth some consideration in a search for fundamental principles of education.

If one has no taste for introspection, either a taste must be developed or a substitute must be found. A substitute which is pretty certain to develop a taste would be very desirable in such cases. The beginner in introspective investigation meets at the threshold the great obstacle to even the trained thinker. A thought is transitory. A state of mind is un-

stable at best, while if attention be directed to its nature there is added an important factor. To the untrained mind this peculiar difficulty is so discouraging that few pass the novice's stage. Can we introduce the process of self-investigation in a simple form, by means of which one may receive preparatory training without encountering discouragements incident upon the sudden and complete removal of all familiar landmarks? I shall suggest a few preliminary operations that have been helpful, and that will not over-awe anyone.

1. Keep a record of the rate of your pulse for a few weeks. Take your own pulse regularly several times a day at given hours, as nearly as possible under the same conditions; for example, just before rising, then at nine o'clock, twelve, one, six, seven, and just before retiring. Of course, the record for each hour must be kept separate. At first it will be necessary to count the beats for a minute, or even for two minutes. Practice will ordinarily enable one to obtain sufficient accuracy in one half-minute. Do not compare the record of one day with that of another until you have at least one hundred cases. Tabulate the results, and observe how regular is the variation during each day. Other rhythms and various irregularities may be discovered and accounted for if the record be continued a few months. Comparison with the results obtained by others will show certain general resemblances and many personal differences.

2. With the aid of a friend to strike the keys, practice fifteen minutes each day for a few weeks, guessing which key of a piano has been struck. Write down the correct key, and your guess. After a few hundred answers have been obtained, tabulate by octaves so as to show the number of correct guesses in each octave, the number estimated one note higher, the number one note lower, two notes higher, etc. Notice the extreme variation, the limits that include one-half the answers, and the number of correct guesses. Compare your results with those of other observers, and note the effects of natural gifts and of training. Observe the effect of pitch and of practice.

3. Procure a dozen bullets. Have a friend drop from three to twelve rapidly and evenly upon a piece of wood or metal (I use a small trough), so that each bullet makes but one clear sound, then falls upon a cloth (sofa). Make fifty trials per day for a week. Record each time the number dropped, and your guess. Observe regularity or irregularity of the decrease of correctness with increase of number, the limit of absolute certainty, and the effect of practice.

Request your friend to hold in a closed hand a number of bullets. With your eyes on the hand, let him open and close it as soon as possible. Guess the number of bullets. Continue this process, recording results as in case of hearing. Tabulate answers, and note same points as above. Compare final results of eye and ear judgments obtained in this manner.

A little ingenuity will devise many other experiments of a similar nature. In carrying them on and in studying their results one cannot avoid introspection.

These simple experiments are well worth a few hours' time, not because one's personal peculiarity is important, but because the experience is sure to suggest a difference between things as they are and things as they seem. The inquirer *must* investigate the causes of so startling an idiosyncrasy. Such experiments will be of greater assistance in beginning and continuing self-study, than an entire text-book of definitions and classifications of words. Any teacher, interested enough to follow the directions already given, will have aroused enough scientific curiosity to wish to know what results others get in these and in more complicated experiments. The teacher will then become an investigator, and will be interested in the investigations of others. If there is a germ of introspective talent in such a teacher, this environment of aroused curiosity and practice in objective measurement of changes in his own consciousness ought to favor its development. If no germ is present, who will suggest a better substitute for introspection than an exact and purely objective and quantitative measurement of psychical phenomena, to which the transition is easy from the simple experiments above mentioned? So impor-

tant is the introspective power that I consider its cultivation a fundamental principle of educational method.

II.

The second principle of method is the accurate, and, as far as possible, exhaustive knowledge of the subject to be taught. On this point nothing need be said. My third principle of method is the complete realization of the truth contained in the opening sentence of Froebel's *Education of Man:* "In all things there lives and reigns an eternal law." Belief in this truth is now general among intelligent people. The practical application of the law is, however, seldom to be found.

The teacher is concerned with the manifestations of life and not with its ultimate principle, which is, of course, inherited and unteachable. It is the material vehicle of life, and its mental and physical products, that the teacher is to operate upon. It will be profitable, therefore, for us to study life as it is known to the scientific world. Child-nature is the most fruitful field in pedagogy. Its study is the most practicable means of developing an individual method that will fit the teacher and not chafe any pupil. No person can make all the necessary observations. There must be created a common stock of knowledge on childhood and its development.

The evolution of men and women from children is already receiving considerable attention. It is not enough to note that, on the average, children ten years of age are larger than children eight years old. If the question is one of size and age, we must know how much larger and what proportion are larger. If the question relates to color-blindness, we must know not only that a certain percentage are generally color-blind, but also which children in our school are defective in color vision, and whether practice in colors will in any degree relieve them. If the subject is nervousness, it is not sufficient to know that many children are somewhat nervous. We must know how to recognize the most common forms of nervous disease, and we must know in what manner a teacher may aid

in their relief. The habit of close observation, and the careful study of the development and nature of children, will soon put the teacher in possession of some valuable guiding principles.

Children usually enter school at six years of age. They "don't know much," it is true. But are we justified in considering them very simple beings? Is not the practice of so considering them an error of our system? Ought we to take this being as the unit and to reckon all progress on this basis? May not this practice be a cause of indefiniteness in our methods, of crudeness in our appreciation, of stiffness in our adaptation? Insight founded on such a basis seems to me like weighing diamonds on hay scales, or like measuring temperance by the number of times one has not been drunk. Compared with a Huxley, such a child is doubtless very simple. Compared with a child one year old, he would appear relatively complex. As a working hypothesis, in our study of children, we may do well to accept the general principle of evolution. At least we must recognize it in the entire life-history of a single individual.

Would it not be very helpful if teachers should study the development of children from birth to school age? The study of older children is already advancing at a remarkable pace. Is there a profitable field for investigation in the pre-scholastic period of the child's life? If our evolution of method is to have vitality there can be no more promising germ than the previous history of the organism. On entering school, children are very much less alike than they are at birth. When they are most alike seems to be the best time to begin the earnest study of their nature. The literature of this early period in human life is rapidly increasing. It is, of course, very valuable, but like all book-knowledge, it must be supplemented by individual personal intercourse with numerous "specimens." Most mothers are not averse to having their infants observed or even wisely experimented with. Abundant material for such investigation is easily accessible.

The teacher cannot risk beginning the study of so wonderful and so complex a being as a child at any later period than

its birth. An indispensable preparation for this study, or, at least, for its adequate appreciation, is a knowledge of the general facts of embryology. For one entirely unacquainted with the conditions and leading phases of pre-natal life, it is nearly impossible to understand the nature of a child at birth. It is, then, particularly fortunate for the ambitious teacher that embryology is becoming popular enough to warrant the publication of its general principles in many medical and physiological works. Scarcely any one of these compendiums is sufficient for a satisfactory insight into pre-natal life, but most of them are suggestive, and a careful study of several will usually lead to the perusal of some special work on the subject.

It is a melancholy fact that to-day teachers' methods and ideas are based upon the older theories of evolution. The physical and mental activities of the child are simply to be unfolded. Is it not time for the educational world generally to adopt the theory of epigenesis? May we not learn that the mind follows the same law as the body in its development? We have already learned from Wolff's discovery that all organs and parts of the animal are outgrowths or modifications of pre-existing organs or parts. Function and organ are too closely connected to be controlled by different laws. It ought to be clear, then, that epigenesis is as true in psychology as in embryology. Advanced psychologists have practically taught this doctrine for some time, but the applied psychologists, especially the great mass of teachers, are working on the "unfoldment" principle. If a thing will not unfold, we may, perhaps, lay hold of it and unfold it. But if a thing will not develop, there is nothing to do except to improve the environment and to furnish a motive.

The philosophy of method consists not in knowing the laws of evolution or the order of the appearance of the faculties of the mind, but in assimilating and in appreciating the fact that the individual does develop by innate forces and in contact with an external environment. The innate forces cannot be changed at the will of the teacher. He is limited to the partial control of

the environment. The complete recognition of this fact is doubtless the cause of much skepticism concerning the possibility of a science of education. Such skepticism is certainly justifiable if science is restricted to the abstract or symbolic form. It is scarcely conceivable that education could ever be carried on as a problem in algebra is solved, without knowing the value of x, y, and z until the process is completed. But if John Stuart Mill was right in affirming the possibility of a science of human character, then a science of education is possible. If it is possible to know the individual approximately, and to estimate the effect of various influences upon him, then an approximate science of education already exists.

The few general principles that underlie the evolution of all individuals are most easily determined by making comparisons at that stage of their lives when they are most alike. In the ovum all individuals are alike. Segmentation and differentiation of cells make known the fundamental law of organic development. "The tendency to individuation" is thus seen to be the aim of every part of the organism and of every organism. To be different from others is the unconscious ideal of every being. A conscious ideal is often substituted for this native longing, and it cannot be maintained that such substitution is valueless. I only emphasize the fact that there is a natural, unconscious tendency to become different.

My conviction is that those who believe in the study of human nature, and especially in the study of child nature, as the foundation of pedagogy, will not be satisfied to begin with the child of school age or even with the new-born babe, but will be forced by their scientific interest to devote considerable time to the fundamental principles of embryology.

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V

PUBLIC SCHOOL PIONEERING

A REPLY

"As most of the council were but little skilled in the mystery of combining pot-hooks and hangers, they determined most judiciously not to puzzle either themselves or posterity with voluminous records."—*Knickerbocker's History of New York.*

In the April number of the EDUCATIONAL REVIEW Mr. Andrew S. Draper signalizes his universally regretted retirement from the professional supervision of the schools of New York by an attempt to prove that the educational history of Massachusetts, as it has been written, is chiefly mythical. A less able and fearless man might have shrunk from the task, but, as everyone knows, Mr. Draper has the courage of his convictions, possibly beyond them.

Whatever honor there may be in "pioneering," he affirms, belongs to New York, and he laments that scarcity of records and the innate modesty of her people have so long obscured her glory. A modern Van Tromp, flying Dutch colors and with broom nailed to his masthead, he sails exultantly over all the Massachusetts seas, and returns in triumph to hear the plaudits of the Bowery and the responsive echoes of the Dunderberg, and to anchor at last in peace in the Tappan Zee.

Having been the innocent occasion of this Quixotic exploit, I am allowed by the courtesy of the editors of the REVIEW a few pages in which to reconsider the educational history of New York and Massachusetts.

Mr. Draper's contention is that the American public school system had its origin in Holland, was transplanted thence to New Netherlands, and from there spread throughout the United States. This necessitates a denial of all that has been claimed for Massachusetts, culminating in the broad assertion that Massachusetts had no public schools of any consequence before the Revolution. Had he gone a step farther and

denied the existence of Massachusetts altogether, he would have done no more violence to history, and would have saved himself the trouble of writing his paper.

To account for the educational superiority of New York over Boston, he contrasts the mother countries from which the settlers respectively came. Holland, he tells us, was a land of liberty, where free schooling was provided for all classes of people—a land flowing with educational milk and honey. England, on the contrary, had a king, schools only for the nobility, and an illiterate people. These illiterate and king-loving people founded Boston and perpetuated English illiteracy.

Concerning Holland, I reply, if she had no king it was not her fault. After the death of William the Silent she tried in vain to find a king. She entreated the Duke of Anjou, King Henry of France, and Queen Elizabeth. The first two volumes of Motley's *History of the United Netherlands* are but the tiresome story of Holland in search of a sovereign. It is true that Holland shared with the other Protestant countries the educational impulse from the Reformation. It is true that the Union of Utrecht did recommend that schools should be established, but it could only recommend. It is true that the Synod of Dort did in 1618 issue a decree concerning education. But the schoolmasters, whom it requested the magistrates to provide, were only to teach the catechism. There is not a line or word in the entire decree containing the most remote allusion to anything but religious instruction.

The decree begins: "In order that the Christian youth may be diligently instructed in the principles of religion and be trained in piety, three modes of catechizing should be employed: I. In the home by parents. II. In the schools by schoolmasters. III. In the churches by ministers." Under the second head it says: "Schools in which the young shall be properly instructed in the principles of Christian doctrine shall be instituted, not only in cities, but also in *town and country places, where heretofore none have existed*, especially that *the children of the poor may be gratuitously instructed*, and not

be excluded from the benefit of the school." All that can be extracted from this decree are church schools, for instruction in the catechism, free to the poor.

Motley and Brodhead have given us glittering generalities about the Dutch schools. A more recent writer has given us a graphic picture of them. "The method of education in children's schools was of the rudest and most unscientific kind. They were kept either by men or women, and many of the latter could not even read." "The middle and poorer kind of children's schools in the Dutch towns consisted generally of low, small apartments on the second story, with an outlook on a dirty lane or courtyard, and sometimes even of a damp cellar. Frequently, in summer, the school was held on the street beneath the penthouse, and inside, in many cases, there were separate apartments for the children of the richer and those of the poorer classes." "Oftentimes the school apartment served as a sleeping room or sitting room, or kitchen; and frequently the mistress kept a small shop for the sale of dainties." "If she could not read, she merely drilled the children from memory in the alphabet, the Lord's Prayer, the Ten Commandments, and the Creed, until the children could repeat them by heart, without having learned to read them."[1] It is little wonder that the Plymouth Pilgrims, after living twelve years among these schools, preferred to teach their children at home.

Turning now to England, we shall find that she shared in the revival spirit as fully as the Continental countries, and that zeal for learning was universal. Grammar schools began to be founded before the Reformation, and, after the dissolution of the monasteries, they multiplied so rapidly that by 1586 they were found in every corporate town.[2] During the reign of Elizabeth alone, 138 were founded. Instead of being schools only for the nobility, as Mr. Draper asserts, the deeds of foundation expressly declare that they are "for children of all degrees."[3] They were called "free schools,"

[1] Geddes's *History of the Administration of John De Witt*, I: 33-34.
[2] *Blackwood's Magazine*, V: 103.
[3] Report of Schools Inquiry Commission, 1868.

and many of them were by charter actually so, the masters being forbidden to take "any penny whatsoever" from the pupils. The masters were required to be "learned men," "graduates of the university," and "in holy orders." All these schools furnished instruction in Latin, some in Greek and Hebrew, and some in the elements of reading and numbers. In most cases special schools were provided for the "petties" and "incipients." The quaint old Richard Mulcaster, headmaster of Merchant Taylors' school from 1561 to 1586, in that curious treatise on education called *Positions*,[4] made it very evident that the thirst for learning was general among all classes of people. He discusses at length how to curb and restrain parental zeal. "Everyone desireth to have his child learned" (p. 112). "This flocking multitude which will needes to schoole" (p. 145). "There is great reason why order should be taken to restrain the number that will needes to the booke" (p. 148).

From these grammar schools for the middle classes came the settlers of Massachusetts, whom Mulcaster had not restrained. Such were the comparative educational opportunities of the settlers of the two colonies in their mother countries.

Before considering the schools in the colonies, it is necessary to define a public school in the American sense. *A public school is a school established, supported, and controlled by the people acting in their political capacity, as a civil body politic.* Pleading for New York, it is claimed that a school was started in 1633 by one Adam Roelandsen; that this school antedates the Boston Latin School by three years; and that it was a free public school for elementary instruction, while the Boston school only taught Latin to a few rich men's sons to fit them for Harvard College and the ministry. As this school of 1633 is the only one for which any claim is made, or of which in history or record there is any specific mention, it merits careful consideration.

[4] *Positions*, by Richard Mulcaster, 1581. There is a London reprint, edited by Mr. Quick, made in 1888.

Its history has been written and published in two editions under the title, "History of the School of the Reformed Protestant Dutch Church" in the City of New York, from 1633 to the Present Time, by Henry Webb Dunshee, 1853 (1st ed.). It would seem as if this title alone gave away the whole point at issue.

The facts concerning the school are these, as recorded by its own historian. It was established by the Dutch West India Company. The masters were appointed by the Company after selection by the Classis of Amsterdam (p. 25). The salary was fixed by the company, and paid by its officers in New Amsterdam out of the local revenue until 1563, when it was paid by the city magistrates out of the same revenue. The only revenue was derived from the sale of wines and beer. There was no tax (pp. 25, 26). The school was under the management and control of the deacons of the Reformed Church (p. 33). After the English conquest, the support of the school fell wholly upon the consistory (p. 36). The schoolmaster was always *ex-officio* clerk, beadle, chorister, and visitor of the sick (p. 25).

It is evident that this was never a public school in the American sense. That it was ever free to any but children of the Reformed Church is doubtful. There were men teaching private schools, and the inference is legitimate that they instructed the children outside the Established Church. These children were many, and they were constantly increasing. From the beginning New York was a city of the world.[5] Eighteen different languages were spoken there at the time of the English conquest. In later times, Dunshee tells us, the school was only free to the poor (p. 63). Whatever other schools existed were of the same character (p. 26). When, in 1663, the Latin school, which the people had asked for, was established, the first master's salary was fixed at 500 guilders from the public revenue, and *six guilders from each pupil* (p. 53), which was exactly the usual method of support in Massachusetts.

[5] Bancroft's *History of the United States*, II : 301.

Considering all these facts, it is not to be wondered at that the historians of New York have been modest. A work, claiming in its preface to be the first complete history of the city ever published, has no reference in its index to schools or education, though it does say in the text, of the church school, "The only school in the city has always been irregularly sustained owing to the want of funds and a suitable schoolhouse."[6] Another historian says of the first schoolmaster, "From some cause . . . he could not make a living at his vocation and so took in washing."[7]

Compare this Adam Roelandsen, the hero of Mr. Draper's novel, appointee of the Classis of Amsterdam, stipendiary of the West India Company, employee of the deacons of the Reformed Church, schoolmaster, catechist, precentor, clerk, and beadle, eking out his income from these varied duties by taking in washing—compare this man with Ezekiel Cheever, bred at St. Paul's School with John Milton, a graduate of the University of Cambridge, scholar and author, for seventy years teacher in the grammar schools of New England. The earliest New York schools are typified by one, the earliest New England schools by the other.

The school whose history is resuscitated by Mr. Draper is proved by its own historian to have been *only a parish dame-school taught by a man.* The fact is that there was no public school in the Dutch colony, because there was no public. The idea, embodied in the New England town meeting, of equal political privileges for all the people, was unknown in New Amsterdam as in Old Amsterdam. The much-talked-of liberty of Holland was municipal liberty, not individual liberty. May says: "Nowhere was there popular election."[8] Motley says the object of the war with Spain was not to maintain civil rights. "To preserve these rights was secondary. The first cause was religion."[9] Bancroft says: "The independence of Holland brought with it no elective franchise for the peo-

[6] Booth's *History of the City of New York*, p. 147.
[7] Lamb's *History of the City of New York*, p. 72.
[8] *Democracy in Europe*, II : 68.
[9] *History of the United Netherlands*, I : 10.

ple."[10] Geddes says: "Instead of a democracy there came forth an oligarchy."[11] "On the one side stood this limited, refined, and highly educated, select oligarchical body; on the other was the great dense mass of the burghers, comprehending among them much bigotry and ignorance; while below the burghers was the non-burgher class, whose worst and most savage element was what the Dutch writers of the seventeenth century uniformly denominated the canaille."[12]

So in New Netherlands. For the first nineteen years there was no municipal organization. And the Dutch people would have been contented to have it so, if the New England emigrants who settled had not brought with them ideas of municipal freedom.[13] But the Dutch authorities prohibited town meetings.[14] When in 1652 municipal privileges were granted it was in the Dutch and not the New England way. There were Great Burgher Rights and Small Burgher Rights. Only those of the first class could hold office; the others could "pay their fees and attend to their business."[15] In the governing class there were twenty; in the other 204.[16] No wonder Mr. Draper talks about schools for "the common people." Massachusetts had no common people; her "burgher rights" were all equal and all "great."

Such was the contribution of Dutch New York to the history of public schools. During the entire Provincial and Revolutionary periods there were in New York City only private and church schools. In 1805 a Free School Society[17] was incorporated for the education of such poor children as were not provided for by any religious society. This society continued to maintain these charity schools until 1852, from 1812 receiving aid from the State School Fund. In 1831 a city tax was

[10] *History of the United States*, II, p. 273.
[11] *Op. cit.*, I: 21.
[12] *Ibid.*, I: 22.
[13] Bancroft, *op. cit.* II: 308.
[14] *Ibid.*, II: 305.
[15] Lamb, *op. cit.*, p. 305.
[16] *Memorial History of the City of New York*, I: 283.
[17] Randall's *History of the Common School System of the State of New York*, p. 14.

levied to aid the work of the society.[18] This was the first money ever raised by direct taxation in the city of New York for schools. In 1842 a Board of Education elected by the people began the organization of Ward Schools.[19] These were the first public schools in the city of New York. From the settlement of the town until 1842 there was not a school of any kind established or controlled by the municipality. The public school system of New York City is just fifty years old.

So much for the metropolis! What of the State? In 1793 the Regents of the University called the attention of the Legislature to the advantages likely to accrue from the institution of schools in various parts of the State for the purpose of instructing children in the lower branches of education.[20] In 1795 a common school system was established, and in 1800 it was "substantially abandoned."[21] "Elementary instruction was supplied for a few months in each year by teachers employed by such of the inhabitants as required their services."[22] In 1812 a Commission, appointed to formulate a school system, in their report speak of common schools as desirable but as non-existing. "In populous cities and thickly settled parts of the country schools are generally established by individual exertion." "From neighboring States where common school systems are established by law" the commissioners "derived much information." The system reported by the Commission was adopted, so that the Common School system of New York State dates from 1812.

But it was not a Free School system. The income from the School Fund and from local taxation was supplemented by the receipts from rate-bills paid by parents who were not specially exempted on account of poverty. The schools were free only to the poor. This continued until 1867.[24] The Free Public School system—the American system—in New York is just twenty-five years old. It is a healthy and promising infant, and Mr. Draper has nursed it during the last six years with

[18] *Ibid.*, p. 74. [19] *Ibid.*, p. 137. [20] *Ibid.*, p. 6. [21] *Ibid.*, p. 9.
[22] *Ibid.*, p. 14. [23] *Ibid.*, p. 18. [24] *Ibid.*, p. 385.

signal assiduity and skill, but he ought not to tamper with the family records nor alter the dates in the parish register.

MASSACHUSETTS

During the year in which Mr. Draper has been occupied in preparing his paper, his official duties have prevented him from making that careful and extended examination of the documentary history of Massachusetts which the exigencies of his case demanded. This is the more unfortunate as the position which he has undertaken to defend is peculiarly untenable.

His declarations cover two points: First, the schools were not supported by general tax; second, there was no public provision for elementary school instruction. His most sweeping propositions are as follows: "The early history of Massachusetts will be searched in vain for any enunciation of the doctrine that all the property of all the people, regardless of religious or other opinions, must by operation of law be made to contribute ratably to the education of all the children of the people." "Save Latin schools open to a few boys who were sons of the comparatively wealthy, and who were preparing for the ministry or for the public service, there were no public schools in either of the Massachusetts colonies for one hundred and fifty years after they were first settled."

Both of these propositions, as I have shown, were absolutely true of New York. They are both absolutely false as applied to Massachusetts.

The first proposition is flatly contradicted by Mr. Draper's own authorities. In the dispute between the people of New Amsterdam and the Company, in 1649, the people had complained because they had no schoolhouse, and they also asked for two schoolmasters. Secretary Van Tienhoven, replying for the authorities, compares the colony with New England. After telling the people that they have no more school advantages because they are unwilling to pay for them, he says:

"In New England everyone is assessed by the local government according to his means, and must pay to the extent of his property, and as the magistrates tax him, for (here follows a

list of town charges) erection of schoolhouses and salary of teachers."[25] This statement is made, not by a modern Massachusetts historian writing an eulogy, but in a contemporaneous State document, by a Dutchman of New Amsterdam. The Massachusetts records of every kind show that Van Tienhoven knew whereof he affirmed.

The school law of 1647 recognized the "doctrine," if it did not enunciate it, by authorizing the towns to support their schools by general tax. All of the towns supported them by such a tax long within Mr. Draper's one hundred and fifty years. Nearly all of them supported them so, in part, from the earliest date. Some of them had never any other mode of support. It is clear that the doctrine, that all the property of all the people shall contribute ratably to education, is as clearly enunciated by a general tax for half the master's salary as for the whole of it. The point at issue is as to the generality of the tax.

Space will allow but few citations. They can be multiplied indefinitely. Mr. Draper says the schools were so little thought of that Governor Winthrop makes no mention of them in his journal. Strange that he should not have discovered this historic passage: "Divers free schools were erected, as at Roxbury. . . and at Boston, where they made an order to allow forever fifty pounds to the master and a house, and thirty pounds to an usher, *who should also teach to read and write and cipher*, and the charge to be by yearly contribution, either by voluntary allowance or by rate of such as refused."[26] There is no evidence whatever that the Boston Latin School was ever supported even in part by tuition fees. Governor Winthrop thus controverts both of Mr. Draper's propositions. The school was a free school, and it furnished elementary instruction. The Dorchester school was supported by income from town property– an indirect tax. There were no tuition fees.

The records of the little town of Dedham disprove every

[25] *New York Colonial Documents*, I: 424.
[26] Winthrop's *History of Massachusetts*, II: 215.

point of Mr. Draper's contention. In 1642 the town set apart some land for a free school; in 1644 they voted twenty pounds per annum for seven years; in 1648 the town built a schoolhouse; in 1651 they renewed the vote for twenty pounds. The custom was to make a town rate every six months for the master's salary, and the *same number of men paid the school tax as paid any other tax for town charges.* This is proved by the recorded list of taxpayers. The master bound himself "to teach to read English and the Accidence [elementary Latin] and to write, and the knowledge and art of arithmetic and the rules and practice thereof." Here was a public elementary school, supported wholly by direct taxation of all the persons and property, in continuous existence from the settlement of the town. (See *Dedham Historical Register*, vol. 1, *Schools and Teachers*, by Carlos Slafter, Esq.)

In the little fishing hamlet on Cape Ann, now known as Manchester-by-the-Sea, in 1723, sixty years within Mr. Draper's limit, the town voted a tax of ten pounds yearly for four years for "a free school, which is for all sexes for reading and writing English and for sifering that belong to the town of Manchester." These plain people were not "enunciating" doctrine, but they were living it.

Mr. Draper affirms that only "a few brighter boys were sent to the Boston Latin School, that they might enter college and prepare for the ministry." Here is what the parents say in a petition to the town (1710): "Very many hundreds of boys in this town, who, by their parents, were never designed for a more liberal education, have spent two, three or four years, or more, of their early days at the Latin school."[37] In the school in Charlestown were taught from the beginning "Latin, writing, ciphering, and to perfect children in reading English." In Dorchester "Latin, English and other tongues and also writing." In Watertown, the master is "to teach to read and write, and so much of Latin, according to the order of the court;" he is also to teach "such as desire to cast accompts."

These instances are, perhaps, sufficient to show that the

[37] Boston Public Latin School, Catalogue for 1886, p. 26.

search into the early history of Massachusetts is not wholly "vain." So far are Mr. Draper's positions from being true that it may be affirmed that from the settlement of the colony of Massachusetts until the founding of Dummer Academy in 1780, just 150 years, there was not a school of any importance, save the Roxbury Latin School, which was not a public school, established by the town, controlled by the town, and supported wholly or in part by the town. The last charge for tuition of which there is any record in any of these public schools was in Salem, in 1767,[38] just a hundred years before New York abolished the odious "rate bill." Massachusetts enjoyed a rounded century of absolutely free public schools, elementary and secondary, before New York had reached the same goal.

The limitations of space forbid my pursuing this discussion further in detail. I have room only for two considerations of a more general character. Mr. Draper entirely misapprehended the spirit and purpose of the paper read at Philadelphia. It was not written to glorify Massachusetts at the expense of the other States. It was prepared, as an honest contribution to the educational history of the country, from material gathered in a somewhat extended study. I have reason to know that it was received as such by most of those who heard it.

The purpose of the writer was to show that the modern form of compulsory school legislation—that requiring attendance upon public schools—is, in Massachusetts, only the latest stage of an evolutionary process which has been going on from the beginning; that the whole school history is rooted in the law of 1642 compelling parents to educate their children, and draws all its vitality therefrom; that the early enunciation of the doctrine so clearly stated by Professor Bouquillon in the EDUCATIONAL REVIEW for April, that "the State can coerce the parent to give the child the education that fits him for his earthly destiny" (p. 371), has saved Massachusetts from the long struggles and the frequent reverses which have marked the educational history of other States.

[38] Records of School Committee, Salem, Mass.

The six steps in the history of compulsory education in Massachusetts are clearly marked in records which are abundant and accessible. The specifications made in the Philadelphia paper are unimpeached and unimpeachable. Their historical importance cannot be obscured by logomachy.

Finally, Mr. Draper fails utterly to understand the spirit of the New England political system as rooted in local autonomy. The people of New York have always shown a willingness to be governed; they began that way. The people of New England have as signally manifested a determination to govern themselves; they began that way. Having enjoyed the sweets of authority for a season, Mr. Draper has a natural affection for an authoritative State educational system. But the towns of New England have always been jealous of centralized authority, and to-day they are keenly sensitive to anything that looks toward taking the schools out of the hands of the people. They believe that town-established, town-supported, and town-controlled schools are, on the whole, the best for them.

Though conscious that their system is not perfect, they would rather bear for a time those ills they have than fly to others that are patent to all observers. They feel that the educational interests of the towns are as safe in the hands of the local authorities as they would be under county and State officials, whose "professional supervision" begins and ends with a single turn of the wheel of party politics.

Nor do they feel at all ashamed of the results attained under the Massachusetts system. They know that their State does not suffer by comparison with New York in the liberality of the people toward education of every kind for every class; in the culture or efficiency of the teaching force, nor in the intelligence and enterprise which the schools have developed. Massachusetts is willing to learn; she is willing to teach; but she is not willing to be misrepresented.

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VI

COMPULSORY EDUCATION IN THE UNITED STATES, II

With the revival of interest in education which marked the middle of the present century, there was aroused an increased attention to the question of compulsory school attendance. The first fruits of this new activity were the truancy laws of 1850 in Massachusetts. The feature which chiefly distinguished these from preceding enactments was the absence of any supervision of parents or employers. The children alone were under the law's restraint. Between the ages of six and fifteen years they were made subject to such rules and ordinances as might be adopted by cities or towns to enforce school attendance. The penalties were not to exceed $20 for each offense. Truant officers were authorized to make complaints of violation of these ordinances, and justices might place offenders in institutions of instruction, or houses of reformation.

This provision for special officers to enforce truancy regulalations, strangely enough, has only recently been adopted in most of the States. Even those which have long had compulsion embodied in their statutes are only now beginning to see the importance of some form of systematic or distinctive official supervision. It was in keeping with the marked tendency of Massachusetts school legislation to exalt practical expedients above mere legal generalities, that measures should be taken to check the growing evil of absenteeism even before the principle of compulsion had itself been definitely asserted by modern statutes: but it will be remembered that the old law of 1642 enjoined on parents the teaching "by themselves or others" of their children, and the degree in which this command must have approved itself for two hundred years to the people of the commonwealth is shown by the manner in which

the first of the modern enactments of like tenor were received. It was not as an innovation, but by natural sequence, that the truancy laws of 1850 served to prepare the public mind for the broader legislation of 1852. It was seen that any law, to be effective, must reach not only the children themselves, but those in whose care they were placed. This, in fact, had been the guiding principle in 1642. What was wanted in 1852 was a definite application of the principle to existing conditions. In the law then adopted, embodying most of the requirements then deemed essential, is to be found the working model of nearly all the effective compulsory education legislation since engrafted into the school systems of other States. What, then, were the distinctive features of this Massachusetts law of 1852?

1. It provided that every person, having under his control a child between the ages of eight and fourteen years, should send such child to some *public* school within the town or city during at least twelve weeks, if the public schools should be kept that length of time, in each year. Six weeks of the twelve must be consecutive.

2. A definite penalty was prescribed for violation of this provision by parents or guardians—a fine of not more than $20 for each offense.

3. School committees were charged with the duty of inquiring into cases of violation and reporting the facts to the town and city treasurers, but these latter officials were responsible for all prosecutions.

4. Certain children were exempted from school attendance (and here was one of the weak points of the law). These were: (1) such as attended schools out of town; (2) those who were "otherwise furnished with the means of education for a like period of time"; (3) those who had already acquired the branches taught in the common schools; (4) children prevented from attendance either by their bodily or mental condition, or by the poverty of parents or guardians.

The history of this first attempt to control school attendance is instructive chiefly as a record of failures. This negative value, however, is by no means to be despised. It is an ex-

perience that should be thoughtfully studied by every State about to enter on a similar experiment. Defects were soon discovered in the machinery provided for the law's execution. The town treasurers, as a class, were not the officials who would naturally be chosen to see to the enforcement of an educational law. In this case, as might have been expected, they seldom took the initiative in prosecutions, and generally refrained altogether from taking part in school cases. In 1859 it was sought to remedy this defect by making the town treasurers liable to a fine of $20 for failure to prosecute after notification by the school committeemen or truant officers, but there was always much laxity on the part of the treasurers, and in 1873 the function of prosecutors was transferred to the truant officers, whose administration has been far more efficient.

The exemption from public school attendance of all children "otherwise furnished with the means of education" proved a dangerous loophole. This unqualified phrase was held to apply to the instruction given in private and parochial schools of every grade, the only test being duration of attendance. The problem was rendered the more serious by the increasing number of schools supported by foreign nationalities, especially in manufacturing districts. Finally, in 1878, a provision was incorporated in the law granting school committees the power to approve private schools only when satisfactory evidence is afforded that the teaching corresponds in thoroughness and efficiency to the teaching in the public schools, and that the progress made by the pupils in studies required by law is equal to the progress made during the same time in the public schools; all such teaching to be *in the English language*. (I may note, in passing, that twelve years later a discussion of the principle embodied in the last clause completely destroyed the political equilibrium of one of the Northwestern States, while it seriously threatened that of another.)

The period of required attendance, at first only twelve weeks in each year, was extended in 1873 to twenty weeks, and more recently to thirty weeks, for all districts in which the schools are in session for so long a time.

Meanwhile, the truancy law had been found ineffectual in checking the growing evils at which it was aimed. In 1862 it was made mandatory on the cities and towns to make and enforce truancy regulations, but the added requirement was of little avail, for in 1866 less than one-third of the towns and cities of the State had chosen officers for the purpose.[1]

In 1873 the law was greatly improved by giving to the school committees the appointment of truant officers, and imposing on the towns the duty of providing places for confinement and instruction of truants. The provision for punishment by fine was abolished, as the purpose of the law was reformatory, rather than penal. Enforcement was sought to be secured by a proviso adopted in 1878, by which towns not complying with the truancy laws were to be deprived of their share of the income from the school fund.

Thus the history of compulsory-attendance legislation in Massachusetts is a record of gradual but steady progress. Perhaps the experience of no other State is so full of useful lessons. Hardly a mistake has been made in recent years, by the advocates of compulsion elsewhere, that Massachusetts did not make and repent long ago. In few States have laws of this character survived so long a period of inefficacy, only to be revived and strengthened and improved, as did the Massachusetts act of 1852. But Massachusetts has taken no backward step. Her success is far from complete, but there has been a steadily growing determination to carry out to the fullest extent practicable the policy to which the State became committed, as the pioneer of the movement in this country four decades ago.

But leaving Massachusetts for the present, let us take a brief survey of the beginnings and progress of compulsion in other States. Roughly speaking, the whole history of the movement is confined to the last quarter-century. Here and there, it is true, something had been done, by agitators like Mann and Barnard, to rouse public opinion on the question. In educational conventions it had been a topic for discussion. Con-

[1] Commissioner of Education, *Report for* 1888–89, Vol. I: 473.

gress, in 1864, passed a compulsory education law to apply to the District of Columbia, but it speedily became a dead letter, and has remained such to this day. During the next ten years, however, much interest was developed, especially in the older and more densely populated States.

Vermont, in 1867, passed a compulsory law, but almost nothing was accomplished by it, since the procedure for its execution was not definitely prescribed. The period of required attendance was twelve weeks; but in 1888, when the law was overhauled with a view to making it a really effective part of the educational code of the State, this period was extended to twenty weeks.

New Hampshire had had a truancy law like that of Massachusetts for about as long a time, but the first general act for compulsory education in that State was passed in 1871. It seems never to have been enforced. The Michigan law of the same year was not so complete a failure, perhaps, but it had the serious defect, common to most of the early attempts at compulsory legislation in this country, of making prosecutions depend on the complaints of private citizens. This was the case in Vermont and New Hampshire, and in many of the States that legislated on the question in after years. In the opinion of the Commissioner of Education, "All experience goes to show that the complaints of voters or taxpayers have never yet set in motion the machinery for enforcing a compulsory law."[2]

In Connecticut, the interest developed by the publication of Superintendent Northrop's report on obligatory education resulted in the full establishment of a compulsory system in 1872. This law has been intelligently and energetically enforced for twenty years, and apparently it never stood higher in public esteem than at the present time. Amendments have been found necessary from time to time, so that the law, as it stands, differs in important particulars from the original enactment; but even in its early years it showed itself to be what no other compulsory law at that time was—something that could be en-

[2] *Report for* 1888–89, Vol. I: 513.

forced. The tendency in Connecticut has been steadily in the direction of State supervision. State agents, rather than local officials, usually take the initiative in making prosecutions. In great measure the comparative success of the Connecticut law is probably due to the fact that actions for its violation are not made dependent on the complaints of individuals.

In New York, agitation for a compulsory law was begun at an early day, and strong opposition was encountered. In 1866, when Massachusetts was the only State that had enacted a thorough-going law, the New York Legislature directed an exhaustive investigation to be made by the superintendent of public instruction of the educational systems of foreign countries, with special reference to the problem of school attendance. Superintendent Rice's report in the following year was a very valuable one, and contributed much to an intelligent study of the question. The superintendent himself took ground against the passage of any compulsory statutes, believing that the persuasive power of free schools had not yet had a fair trial in the State. Similar views were held by his successors, and thus compulsion failed in New York to secure the advocacy of the authorities on whom its success as a practical measure of educational administration so largely depended. In 1874, after repeated failures, a bill passed both Houses of the Legislature, and became a law. The expediency of the measure was doubted by the superintendent, but his aid was promised to secure its enforcement. In most parts of the State the very existence of such a statute has been persistently ignored from the outset.

Since 1880 the first serious attempts to amend and enforce the old compulsory education laws, and to make new laws capable of enforcement, have been made. The final paper of this series, therefore, will be devoted to a discussion of the present status of compulsion in the twenty-eight Commonwealths in which it is in operation.

WILLIAM B. SHAW

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VII

RESULTS UNDER AN ELECTIVE SYSTEM, I

This paper offers the results of a study extending over some six years of interesting experience in Indiana University, relative to the workings of the principle of choice in determining college courses. That the privileges of option appear in various forms, now almost absolutely without restriction, and again in the guise of prescription itself, is familiar to every educator. Whether, by the general and educated public, the results here reported be regarded as confirming the general principles of freedom, or the reverse, will depend, in a measure at least, upon the interpretation put upon the particular phase of that principle, or the extent to which it has been employed in each particular institution.

As the organization of the courses in Indiana University is distinctively its own, a paragraph is inserted setting forth, in a general way, the plan. It makes little of class distinctions, puts all subjects on an equal footing, grants but one degree, and allows great freedom among lines of study, with but little among subjects.

For the purpose, then, of investigating the character and composition of the courses actually selected by students under this elective system, an inquiry was begun by the department of pedagogics,[1] with the first class under the new administration.

CLASSIFICATION OF COURSES

To this end, the subject-matter of the courses offered in the various departments was set off into groups; each group

[1] For much of the material here presented, the examination of records, and helpful suggestions, the writer is under obligation to certain members of the pedagogical department, teachers of many years' experience, prosecuting advanced studies, and to whom too much credit cannot be given for their faithful and painstaking inquiry and accuracy. The writer believes the trustworthiness of the statistics cannot be questioned.

being more or less composite, but made up of related subjects. These groups are (*a*) the languages, including English, Greek, Latin, German, and French; (*b*) the physical sciences, comprising geology, botany, zoölogy, physics, and chemistry; (*c*) mathematics, both pure and applied; and (*d*) the humanities, or those knowledges having to do with the spiritual and institutional life of men—history, sociology, philosophy, (psychology, logic, ethics, art, criticism, etc.,) and pedagogy. Languages other than those mentioned under *a* were included under related heads. Astronomy, for local reasons, was considered with mathematics. When taken as a part of under-graduate work, law was included with social science. Some explanation should be made, perhaps, of the name given to the fourth class—"humanities." It is used simply to include those subjects which have to do with human life and conduct; specifically, such experience as works out in institutional and social forms. The group comprises the historico-ethical studies, and such speculative inquiry as falls under the head of general philosophy, whether considered in their practical, theoretical, or historical aspects.

THE LIMITATIONS IMPOSED

The present university policy was adopted in 1885, and the studies (except as elsewhere explained) include only those students whose courses were wholly or chiefly determined under the elective principle. With this in view, there were excluded from the table, (*a*) those who entered from other institutions, taking advanced standing; (*b*) those who entered from certain high schools and the State Normal school, commissioned to fit for the higher classes; and (*c*) all who, because of age or experience, were allowed substitutions that made their courses regular. The original inquiry included but sixty cases, extended over a relatively shorter period, and made no attempt to analyze the groups into smaller wholes. The general inferences then made, however, correspond closely with those since calculated with more detail. For those sixty, the average percentage of language in the

total course was a fraction over 48; of science, 19; of mathematics, 14; and of the humanities, about 22. This alone was suggestive, as showing the large preponderance of language-study over any other; indeed, there was almost as much of this one class as of all the others combined. This, too, in an institution better known for its science teaching than for anything else. Scarcely less noticeable, also, was the relatively large proportion of the social and ethical studies. Trebling the number of cases has not, as will be seen, changed the averages in any appreciable degree, or the pedagogical inferences.

The preparation of the present tables was undertaken with the thought that a sufficiently large number of cases should be studied to eliminate possible errors from incidental variations. The names of students were omitted, and the cases numbered, to exclude the opportunity for the exercise of any personal interest on the part of the inquirer. The courses taken were "selected" in no other sense than with the restrictions already mentioned. Except as noted above, every course was taken, however distorted, or scattering, or haphazard, or otherwise unsatisfactory. The list, as finally completed and here reported, includes all available students who completed a four years' course in Indiana University, in the period from 1887 to 1892 inclusive, and numbers one hundred and ninety-two names. It excludes fifty graduates, for the reasons stated above.

Besides these recent courses there have been embodied in the tables, for purposes of comparison, fourteen others finished in 1881, and twenty-five finished in 1880, both groups falling in the period of transition, between the traditional three prescribed courses and the expansion incident to the freer policy of the last seven years. During these years the percentage taking language was a fraction less than it has been since, and that taking mathematics a little more. Both differences are so slight as to be insignificant in comparison with the general average. These, once more, were preceded by a list of twenty-one courses, each covering four years, all taken under

prescription, and representing various years from 1832 (in Indiana University) to 1889, and a half dozen institutions.[2] While this, again, shows a somewhat larger proportion of language, and still larger percentage of mathematics, the list in this instance is only a fragment, and can scarcely furnish ground for any reliable inference. The conclusions hinted at are suggestive, and would be more so if the period represented could be fairly covered.

THE ORGANIZATION OF INSTRUCTION

The organization comprises twenty coördinate and fairly independent departments, as follows: English, Greek, Latin, French, German, and rhetoric and oratory; geology, botany, zoölogy, physics, and chemistry; pure and applied mathematics (separate departments); European history, American history, economics and social science, philosophy, and pedagogics; and law. A student may choose as his specialty any one of these courses, except that upon American history and law. All of the former and the first year of the latter, however, may be elected by any student as a part of his regular course. "All these courses demand the same preparation for admission, all require four years for completion, all oblige the student to follow some special line of study during three or four years, and all lead to the degree of Bachelor of Arts."

The college year, for convenience of administration, is set off into three terms of about equal length. Each undergraduate, who is a candidate for a degree, is required to carry the equivalent of fifteen hour's work per week, for four years. A full course thus means thirty-six terms of daily work followed under prescribed conditions. These are substantially as follows: Three of the thirty-six terms must be in the department of English: that is, an historical or critical study of the English language. The equivalent of three must be taken from the department of rhetoric and elocution. Three must

[2] In January, 1884, most of the university records were unfortunately destroyed by fire. This list of the older courses includes all that could be made out from the ruins of books remaining, from catalogues, and the assistance of those who could be seen personally.

be in science and some one science. Three must be in mathematics. Six must be in some language or languages other than English. (Under this provision Greek, Latin, German, and French are given equal rank in all respects.) At least nine terms (in most subjects twelve) must be made up from the announcements of one department, the work of which constitutes the major subject of the individual course. The remaining terms may be selected, practically at the will of the student, from any of the departments offering work.

The subjects usually taken by freshmen are English, mathematics, and either some language or some science. "The selection of a speciality is made at the beginning of the sophomore year"; but may be changed by a student "with the consent of the Professor in charge of the department which he leaves, and also of the one he wishes to enter." . . . . "No student will be graduated who has not finished all the work required for graduation in some one department, however much he may have done in other departments."

From the preceding statement, including extracts from the last official report of the university, it will appear that about one-half of the entire course of any student is prescribed; the English, rhetoric and allied subjects, absolutely, but with choice between the two courses in mathematics, among the four foreign languages, and the five sciences. Moreover, it must be kept in mind that the major subject itself is selected by each student from among the eighteen coördinate departments. This gives large room for choice in everything except English. This, then, may be taken as the particular phase of the "open system," shown in Indiana University; one-sixth of the work is prescribed; five-sixths are left to the preferences of the student most interested. Or, considering the limitations imposed, three-fourths of the entire course of each student is regulated, one-fourth left to the free choice of the individual.

QUANTITY OF THE COLLEGE COURSE

One aspect of change appears in the number of terms of work really passed upon by each student. The earlier admin-

istrations usually required four, and for certain terms five, parallel lines of study. This would aggregate, on the basis of three terms to the year, forty-eight to fifty-five terms of work in the four years. Some relief was granted during the senior year, and minor concessions made for short periods to freshmen. For a generation, however, after the incorporation of Indiana College (1828), the average length of the course was nearly fifty terms. For the first twenty-one cases included in the table, all from Indiana University prior to 1880, or from other institutions with like traditional courses, the general average was forty-eight terms; and for the entire list of courses tabulated for the period prior to 1882, the number was forty-six.

On the contrary, while the general average of the 252 courses studied is a fraction more than forty-one terms, the corresponding number for the six years under the recent policy falls below forty (39.4). That is, while the work has been abundantly enriched in twenty years, the departments multiplied and options allowed, the number of subjects taken as represented by the different terms of work has diminished seventeen per cent. This means obviously more compactness in the average course, a relatively longer time spent upon each subject, concentration of effort; all of which are advantages to the student, and marks of improvement characteristic of the modern spirit.

Again, as bearing upon the same point, while there are more subjects than formerly (the number offered having more than quadrupled in twenty years), the statistics show a gradual diminution of one-term subjects, the reduction for the period in question being about fifty per cent. Leaving out of account, also, the lines of the specialties, there is a significant increase in the number of subjects to which two years or more of time has been given, as opposed to the partial courses and brief views, and occasional, disconnected studies of years ago, and incident generally to prescriptive training. This is a great and obvious gain. As showing a free and ready acceptance of the work offered, it appears that, while graduation requires the completion of a minimum of thirty-six terms,

the average length of course for six years has been approximately forty terms. Nine only of the 192 passed through technically on less than the full time; thirty-eight of them on the exact requirement, leaving three-fourths of the number doing from one to six terms of extra work.

These additional courses, representing by so much an enrichment of the college training, are, it must be remembered, voluntarily assumed, as relatively few courses could be so taken under the earlier management, and pursued without the disadvantages accompanying an already overcrowded day of four or five exercises.

It will already have been noted by the observant reader that while half of the entire curriculum of the average student and of each student is prescribed, the prescription is by types, not subjects. Neither ancient nor modern languages, nor both, are required, but two years' work selected from the four. It is not a particular science, or even one or both of the two great groups of sciences (the biological and physical), specified to be taken in common; but one continuous year in science, the selection of the particular laboratory subject being left absolutely to the student. The purpose of the college being liberal culture, what is sought is not the possession of a language or a school of languages, but the training that comes from a systematic, continuous, intelligently directed study and use of language as an instrument of culture. So of science: the scientific method, and the habits and attitudes of mind involved in and resulting from a painstaking study of natural phenomena and their laws, are incalculably more important to the maturing youth than to know the conclusions of the entire circle of the sciences. The principle is equally true and for the same reasons, of the humanities. An interested and therefore willing and vigorous study of any one of the group is greatly to be preferred to an unwilling and half-hearted, and so unintelligent following of any other or all of them combined. How the elective principle operates under the influence of such standards of culture and using the organization just described will now appear.

PROPORTION AMONG GROUPS

In the following table (A) are exhibited the proportions of the four groups of subjects for the several classes of graduates whose courses have been tabulated. In this, as in others that follow, a distinction is preserved both by years and totals, between those taken under the system of prescription (called "Traditional Courses") and those in Indiana University under the present organization (tabulated under "Elective Courses)."

TABLE A.—SHOWING GENERAL AVERAGES.

No.	Subjects.	Traditional Courses.				Elective Courses.							General Average.
		Misc.	1880.	1881.	*Aver.*	1887.	1888.	1889.	1890.	1891.	1892.	*Aver.*	
1.	The Languages	50.1	45.9	45.8	47.2	51.4	51.7	45.9	42.2	47.1	47.4	47.6	47.5
2.	The Sciences	15.4	19.1	20.2	18.1	15.9	17.7	18.2	21.7	14.4	16.1	17.3	17.6
3.	The Humanities	11.9	17.9	21.3	18.4	21.1	20.4	25.3	23.1	27.	24.4	23.5	21.8
4.	Mathematics	18.4	13.1	12.7	14.7	11.6	9.9	10.6	13.1	11.5	12.2	11.5	12.6

Throughout the period the average of language—that is, the percentage of language, in the total course—has never exceeded 52 per cent. nor fallen below 42 per cent.; the variation in science is greater, though not in any respect uniform, while in both mathematics and history it is even less.

The table means that in the average course of 40 terms, about 20 are given to language (including the vernacular), 10 to the humanities, 6 to physical science, and 4 to mathematics; or in every hundred exercises, there would be approximately 48, 24, 17, and 11 in the respective classes in the order mentioned. The nine oldest courses tabulated, including one from a class of 1833 and all taken before 1870, average less than 49 per cent. of language. And, excluding two of these who took an early scientific course, the one having no language except English, and the other no Greek, the average of the other seven was nearly 55 per cent. For the remaining twelve courses, all still taken under the regime of prescription, the proportion of language was a fraction over one-half. Not less suggestive

is the fact that the proportion of science in the total course has not greatly changed. Indeed, almost half the courses noted prior to 1876 had more science in them than the average for all the years since.

Neither in science nor language, then, has any important change occurred as to the distribution and proportion of subjects. Under the elective system, the often repeated fear that language-study would suffer from an undue cultivation of the physical sciences, finds here no confirmation. On the contrary, it seems, as will appear more emphatically elsewhere, to have effected a readjustment of the languages, and given them new significance. The real, and really helpful, modification brought about in the proportions of the subject-matter, is shown in the exchange made between the humanities and mathematics.

In the older courses mathematics shared with the classics the honors of liberal culture. What are here denominated the humanities received but scant recognition. Three months each in mental and moral philosophy, and a short time in logic, a text-book study of political economy, and brief courses in ancient history, with an occasional excursion into mediæval and modern times, made up the maximum of attention to this entire group of subjects, unless there be included the lectures upon the Evidences of Christianity which formed a part of the course for forty years. Mathematics has, however, a very different and more honorable history. In its various phases it made up at times a full fifth of the course prescribed. Of the twenty-one earlier courses, thirteen included from nine to twelve—an average of ten—terms of mathematics in an average of fifty-one terms in the full course. This was somewhat modified in the introduction of parallel courses (two in 1855, and three in 1877), though up to 1880 mathematics claimed about one-sixth of the time. Since then, what has been given to the study of modern institutional life and the scientific treatment of philosophical problems, all of which is a positive and large addition to the old curriculum, has chiefly been subtracted from the mathematics. Another, though smaller part, has gone over to physics. This does not mean that so much less attention is

now given to the subjects once taught as mathematics, but, in part at least, that the change, here again, is readjustment.

The reorganization of the curriculum, and the comparative independence of departments, have made possible a full course in general and critical history, a two years' course in American constitutional and political history, these occupying the full time of two professors; and a course in economic and social science covering three years; a like time devoted to general philosophy, and another to pedagogics; all within the field once given from three to six terms, only, five full professorships where before there was one. Summarizing the paragraph, it may be put with a fair approximation to the truth, in this way: The proportion of language remains almost unchanged; there has been a small diminution in science, and mathematics and the humanities have exchanged places.

The four groups of knowledge contributed to the making of the older courses, and in much the same proportion as to the present ones. The advance here has not been in the way of discovering new fields, but in enriching those already worked. With varying interests, also, have come varying estimates of the functions and efficiency of the individual languages and individual sciences. But the relative importance of the two, as shown by their place in the respective courses, has not greatly varied. That is, the modification of the course, incident to the "open system" followed, has been one of numerous subtractions and additions throughout the several departments, rather than an established transfer of interest from any old group of subjects, or the dominance of any new.

(1) THE LANGUAGES

The accompanying table, and those which follow, will present the essential points for this feature of the discussion beginning with language. As in the previous one, this table (B) includes the averages for the nine classes, but shows the proportions of the five languages only, each with reference to all the others, and to the aggregate of language in the total course.

TABLE B—AVERAGES OF LANGUAGES

NUMBER.	LANGUAGES.	TRADITIONAL COURSES.				ELECTIVE COURSES.							GENERAL AVERAGE.
		Misc.	1880.	1881.	*Aver.*	1887.	1888.	1889.	1890.	1891.	1892.	*Aver.*	
1	English....	8.8	13.	10.7	11.	9.4	12.3	8.1	12.7	15.1	19.	12.8	12.1
2	Greek	16.8	16.4	13.2	14.9	10.	7.1	10.5	5.9	6.5	5.5	8.9	11.1
3	Latin.....	17.9	12.3	13.6	14.5	10.8	12.4	8.6	6.4	7.	7.8	9.	10.8
4	German...	3.7	4.5	7.5	4.9	13.2	14.7	13.1	12.4	13.8	12.9	13.4	10.6
5	French.....	2.6	1.7	2.3	2.2	8.5	5.9	6.6	4.5	4.3	3.6	5.6	4.4
	TOTAL . ..	49.8	45.8	48.5	47.2	51.1	51.7	43.9	47.2	47.3	47.4	47.2	47.1

Prior to 1870 French does not appear in the course, and German but sparingly; there was but half as much English as now, and language, averaging half of the entire course, was chiefly classical. After the year named, English, French, German, and occasionally Hebrew, together made up a little more than one-fourth of the language study, and the ancient classics the other three-fourths—the two, Greek and Latin, receiving about equal attention. Upon the expansion of the work into two and then three parallel courses, Greek held its own longer than Latin, though the proportions vary considerably with successive classes. That is, in a given period, Latin was taken by more students, though the ratio of the chosen language to the total course was twice as great among those who took Greek. For the first time, in 1887, German formed a larger part of the average course than did either Greek or Latin. This relation has since been maintained. Indeed, for five years the proportion of German has been nearly equal to that of both of the ancient classics, or a little more than twenty-eight per cent. of the total language. That this subtraction from the classics has not been at the same time an addition to any unrelated group of studies, and so a total loss will appear upon an inspection of the footings in Table B. With considerable shifting among the several languages, the average proportion of language remains practically unchanged. Indeed, omitting French, the average of the other four languages for all the nine classes differs by less than one per cent. from

that of any one of them. And even among the elective courses the variation is but two per cent. in an aggregate of 44.1 per cent.

As exhibiting in yet another way this distribution of the four groups, Table C is inserted, showing the total number of different students credited to each of the four foreign languages for the years 1887 to 1892 inclusive. Of the 192 graduating in the six years, all, with one exception, took English, this being a required subject. One hundred and seventy-two took German for a longer or shorter time; 158 took Latin; 98 took French, and 69 Greek. Or, put into hundredths, 82 per cent. of the total number had instruction in Latin, 36 per cent. in Greek, and 31 per cent. in both. Of the 123 who took no Greek, all but two had German. The change here again is an exchange with a kindred language, not a surrender to an alien class.

TABLE C—SHOWING NUMBER TAKING EACH LANGUAGE

Year.	*No. of Cases.*	*Taking Greek.*	*Average in Course.*	*Taking Latin.*	*Average in Course.*	*Taking German.*	*Average in Course.*	*Taking French.*	*Average in Course.*
1887	18	8	22.5	16	12.2	18	13.4	15	10.1
1888	36	11	23.2	35	12.7	29	18.2	21	10.1
1889	32	15	22.5	28	9.8	28	15	22	9.7
1890	32	14	13.5	23	9	27	14.7	16	9
1891	42	11	24.9	32	9.2	41	14.1	15	11.9
1892	32	10	17.6	24	10.3	29	14.2	9	13
TOTAL,	192	69	20.7	158	10.5	172	14.9	98	10.6

But among these several courses, Greek ranks first in its ratio to the total of all the subjects taken (21 per cent.); German next (15 per cent.); Latin (10 per cent.), and French (10 per cent.). That is, in the pursuit of the language studies, Greek shows fewer partial courses, and French and Latin most. If an integrated course is an ideal in college education, there has been only apparent loss in the diminution of Greek as compared with the earlier policy. Who will say it is not bet-

ter to have made Greek a fifth of one's course from choice than one-fourth under stress? or to have exchanged Latin for German, if the latter really fitted itself to some serious purpose?

(2) THE SCIENCES

A detailed investigation of the distribution of the science work also, in the present period and in that immediately preceding, is not less suggestive, and confirms the inference that the principal change effected in the course, under the influence of free options among the departments, is one of readjustment, not of monopoly of supposed favorite subjects, or neglect of others.

The accompanying table presents this distribution of work among the sciences:

TABLE D—AVERAGES OF SCIENCE

No.	Subjects.	Traditional Courses.				Elective Courses.							General Average.
		Misc.	1880.	1881.	*Aver.*	1887.	1888.	1889.	1890.	1891.	1892.	*Aver.*	
1	Geology..	2.5	5.3	4.5	4.2	2.5	2.4	2.2	2.3	1.7	1.8	2.2	2.8
2.	Botany...	.8	.6	.9	.8	2.4	2.4	2.5	2.4	1.8	2.7	2.4	1.8
3.	Zoology..	1.7	1.5	3.4	2	5.4	4.6	5.7	4.6	3	2.9	4.4	3.7
4.	Physics...	5.8	4.7	5.9	5.4	1.7	2.3	3	4	3.2	4.5	3.6	4.2
5.	Chemistry	4.7	7	5.3	5.3	4	6.1	4.2	8.1	4.1	4.2	5.1	5.3
	Total	15.4	19.1	20	18.2	15.9	17.5	17.6	21.4	14.7	16.1	17.4	17.5

The most striking reflection to be made upon the table, and the facts it represents, is that there has been a small though evident reduction in the general proportion of science taken to the entire average course. This notwithstanding that public sentiment, the associations of the elective principle, and the local influence were strongly favorable to the largest cultivation of such fields of knowledge.

With this in mind then, let it be also remembered that the earlier curriculum already included much of physics, often under the name of mechanics, and chemistry; somewhat extensive—for that day—and popular courses in geology and mineralogy, a little, very little, zoölogy, and less of botany.

Chemistry has, upon the whole, about held its own, constituting for forty years from 4 to 8 per cent. of the course. (The method of studying and presenting the subject has been revolutionized.) Much of physics has been set off to schools of science and technology, and, in the arts course, has been reduced by nearly one-third. The proportion of botany has been doubled. The principal change, therefore, as might be expected, has been a growth in the biological sciences. This increase has been taken chiefly from physics, though largely, also, from geology—a department that has suffered no little neglect through most of the period under discussion.

Even this, however, does not fairly state the case of the sciences. Of the 192 students noted, more (139) elected chemistry than took any other one science. Geology comes next (134), and zoölogy (129) follows third. Physics (113) and botany (107) take the order given. That is, excluding specialists in each subject, the percentage of the remainder who elected work in the physical sciences was 10 per cent. greater than those electing from the biological sciences.

The order given is, perhaps, that of the equipment of the several departments, the fuller appliances inviting patronage. It has already no doubt been suggested that not only the material equipment, but the efficiency of the instruction, the popularity of the professor, the conditions imposed for graduation, and the professional or other prospects of the student are all factors in determining the recognition of a department. That in an institution, however, of thirty or more professors and instructors, eighteen independent departments, and courses offered sufficient to cover twenty years of continuous study, there have been so few apparent indications of neglect or evasion, goes to emphasize strongly the inference that, within the four groups mentioned, the individual preference of the student is the determining factor, after all. How safe a factor it promises to be may be estimated in part from the later study of "major courses."

As appears from the accompanying table, the longer and better integrated courses also were in chemistry, followed

closely in order by zoölogy and physics, geology standing lowest.

TABLE E—SHOWING NUMBER TAKING EACH SCIENCE

Year.	*No. of Cases.*	*Geology.*	*Ratio to Total Course.*	*Botany.*	*Ratio to Total Course.*	*Zoology.*	*Ratio to Total Course.*	*Physics.*	*Ratio to Total Course.*	*Chemistry.*	*Ratio to Total Course.*
1887	18	10	4.5	15	2.9	14	7	9	3.5	16	4.4
1888	36	25	3.5	25	3.5	21	7.9	26	3.5	34	6.5
1889	32	24	3	22	3.7	21	8.6	14	6.9	20	6.6
1890	32	24	3.1	16	4.8	26	5.6	19	6.7	28	9.1
1891	42	24	2.9	16	4.8	32	3.9	25	5.4	26	6.7
1892	32	17	3.5	13	6.7	15	6.3	20	7.2	15	9
Total,	192	134	3.4	107	4.4	129	6.5	113	5.5	139	7.1

If the inquiry be carried to a comparison of results in successive years, it will be found that in physics, chemistry, and botany there was a uniform gain in the average length of course. In other words, along with more or less of increase in the number of persons electing from the science courses, there appears also a uniform gain in the length of time so devoted to science.[2] In zoölogy, however, notwithstanding an increase in the number of students electing the work, its proportion in the average course after 1889 diminished one-third. That phase of science—the physical—which twenty years ago predominated, still forms the major part of science in the average course. The marvelous growth of the biological sciences is more than equaled by the more frequent choice and lengthened courses in physics and chemistry. Throughout the years, nevertheless, the ratio of science to the total course has remained practically unchanged.

(3) THE HUMANITIES

A similar class of inferences is equally obvious concerning the humanities. The first of these to be developed was that

[2] In geology, it has been already explained, the department has been for much of the period without an instructor, which would account for the evident lack of interest and patronage.

which figured chiefly as political economy, including also, generally, a term or two of constitutional law, sometimes international law, and occasionally a sort of lecture discussion of topics now known as civil government. For a period, also, certain lectures in law were opened to undergraduates, and were of the character to be classed under the general head of economics as then presented. Through the introduction of parallel courses, history was largely increased, and philosophy also, though much later.

TABLE F—AVERAGES IN THE HUMANITIES

NUMBER.	THE HUMANITIES.	TRADITIONAL COURSES.				ELECTIVE COURSES.							GENERAL AVERAGE.
		Misc.	1880.	1881.	*Aver.*	1887.	1888.	1889.	1890.	1891.	1892.	*Aver.*	
1	History....	4	8.6	9.8	8.3	10.7	8.6	12.3	10	10	10.4	10.5	9.4
2	Sociology.	4.6	5.4	2.9	4.5	3.3	4.2	5.1	6.6	7.5	5.1	5.3	5
3	Philosophy.	3.2	3.2	8.7	4.4	6	5.4	6.9	4.5	4.7	4.8	5.4	5.1
4	Pedagogics.					2.1	1.7	3.1	3.3	4.2	4	3.1	
	TOTALS....	11.9	17 9	21.3	17.1	22.1	20.1	25.5	23.1	27	24.4	24	21.5

The entire department represents now an aggregate of forty-two terms of work offered (and given every year), in the field covered less than twenty years ago by a half dozen terms at most. Indeed, on the side of its enlargement, no phase of the course better represents the great change that has taken place than that called here the humanities. The study of the forces of civilization, the political and social conditions of the ancient nations, all special and local histories, the two entire departments of American history and pedagogics, and most of what is included in that of economics and social science, are positive additions to the curriculum of a generation ago only. Notwithstanding which, through the options allowed to students, the proportion of the humanities in the average course has not quite doubled. Greater than elsewhere, the increase is still small.

Throughout the present period, also, history has been first of this group of subjects, both in the number who elect its

work—174 out of the 192—and in the proportion it bears to the total course—11.3 per cent. Philosophy seems next in popularity, that is, most generally chosen, though the proportion of sociology in the average course was nearly one-fourth greater. Fifty-two per cent. of all had more or less work in pedagogy.[4]

The large development of the entire group, the extension of its subject-matter, and the reform in methods of treatment mark the greatest change perhaps growing out of the present policy. The change is not all due to this factor alone, but rather to the conditions and movements of which the Elective System is itself a part.

TABLE G—NUMBER TAKING EACH OF THE HUMANITIES

Year.	*No. of Cases.*	*History.*	*Per Cent. in Total Course.*	*Sociology.*	*Per Cent. in each Total Course.*	*Philosophy.*	*Per Cent. in Total Course.*	*Pedagogy.*	*Per Cent. in Total Course.*
1887	18	18	10.6	12	4.9	15	7.1	9	4.1
1888	36	35	8.6	19	8	27	7.2	13	4.7
1889	32	27	14.6	22	7.4	24	9	16	6.2
1890	32	29	11	19	11.1	24	5.9	18	5.9
1891	42	37	11	29	10.8	28	7	26	6.7
1892	32	28	11.9	12	13.6	14	11.1	18	7.1
TOTAL,	192	174	11.3	113	9.3	132	7.9	100	5.8

MAJOR COURSES

As showing in yet another way the relations of the several lines of work and their acceptance or rejection by students, the accompanying table of major courses is presented.

In the first column is given the proportion which each subject bears to the total course of the 192 students whose records are taken. Based upon the numbers of the second column, showing the number of graduates in each subject specified,

[4] One of the conditions, it will be remembered, under which this study has been made required the exclusion of those who entered from the State Normal School. As a majority of these take their major subject in the department of pedagogy, the record of this department is materially reduced.

are the figures of the third column indicating the ratio of the specialty—the chosen major subject—to the total course of those having the same major subject.

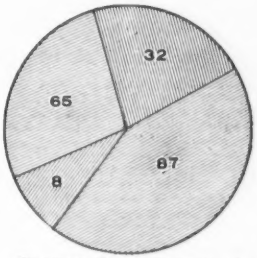
TABLE H—DISTRIBUTION OF MAJOR COURSES

No.	*Subjects.*	*Ratio of Each to Total Course.*	*No. Graduating in Each Department.*	*Ratio of Each to Total Course.*
1	English	12.8	18	29.4
2	Greek	8.9	33	30.8
3	Latin	9	4	29.2
4	German	13.4	25	30.5
5	French	5.6	7	15.7
	TOTAL, LANGUAGE	47.6	87	29.5
6	Geology	2.2	1	15.4
7	Botany	1.9	3	19.6
8	Zoölogy	3	6	27.8
9	Biology	1.9	3	20.6
10	Physics	3.6	5	23.5
11	Chemistry	5.1	14	25.3
	TOTAL, SCIENCE	17.4	32	24.3
12	History	10.5	30	24.5
13	Sociology	5.3	16	25.1
14	Philosophy	5.4	16	20
15	Pedagogics	3.1	3	20
	TOTAL, HUMANITIES	23.5	65	23.4
16	Mathematics	11.5	8	34.6
	GRAND TOTAL	10.0	192	26.9

PROPORTION AMONG GROUPS

It appears that out of a total of 192 graduates, 87 are credited to the language group, 65 to the humanities, 32 to science, and 8 to mathematics. Or that about one-half and one-third, respectively, choose language and the humanities, or an aggregate of a little less than five-sixths; one-sixth science, and the remainder mathematics. Here again there is no indication that any undue or disproportioned advantage has been taken or accrued to science, or that ultra-classical and humanistic education has suffered.

That such showing appears in an institution in which science is made one of the required subjects, and nine-tenths of whose material equipment (exclusive of libraries) is in science, whose president was a man of international reputation in science, and whose curriculum was understood by the public to have been reorganized in the interest of science, lends a significance to the figures which no repetition can enhance. This neither justifies nor dignifies any one department nor depreciates another; nor is it meant to be so used; it only shows that students distribute themselves as to kinds of work on wholly different grounds than those which prevailed under the former regime. Public opinion and established customs and popular professors and a lavish equipment may, and do, and should, exert a certain influence; but some characteristic aptness on the part of the student, and the possession of a definite purpose, and the recognition of opportunity for the accomplishment of coveted results, are far more determining factors.



GRAPHIC ILLUSTRATION OF TABLE H.

Circle = 192 = Total number of graduates, 1887–1892 inclusive, whose entire courses were taken under the elective system.

87 = Graduates in Language.
65 = " Humanities.
32 = " Science.
8 = " Mathematics.

PROPORTION AMONG SUBJECTS

Further, of the sixteen minor divisions, including five languages, six classes in science, four in the humanities and mathematics, the largest number of graduates in any one was in the department of Greek, 33; and the second highest in history, 30; the two together aggregating almost exactly twice the total number of graduates in all the sciences taken together. Moreover, the third largest class was in German, 25. Setting these off once more—omitting the English—into two groups, one of which comprises the ancient classics, philosophy, mathematics,

and the physical sciences; and another made up of those known distinctively as "moderns," the former group must be credited with 80 students, about 46 per cent. of the remaining 174 graduates, and the "moderns" with 54 per cent. That is, under a clearly marked "open system," where students are left free to distribute themselves as to their major subjects according to their preferences and not after some traditional standard, what have been known as the "disciplinary" studies, and particularly the "ancients," receive an almost equal patronage with the "moderns."

All this, it will be noted, says nothing as to the relative merits of the two classes of studies in the modern process of education, but simply serves to emphasize the fact that the introduction of the "elective" principle has done little—at least in Indiana University—toward revolutionizing the average distribution of college courses. The change has been constructive, not destructive.

PROMINENCE OF THE SPECIALTY

It appears, further, from the same table, that while the proportion of all the specialties chosen to the total course was nearly twenty-seven per cent., that of the languages was two per cent. greater and of science as much less. Or excluding the French, whose graduates passed upon an average of sixteen per cent. of their specialty, and geology and botany, whose graduates had but little more of their major subject, the general average of the language specialty taken was six per cent. more than that in science. Each took his full course, but the excess above the minimum requirement was greater in language than in any other department except mathematics. The highest average shown is in the latter branch; though the highest individual ratio is in Greek. Putting the same relation into *terms*, it stands as follows: Specialists in language spent an average of twenty-six terms upon the languages; specialists in the humanities, eighteen terms upon that group; specialists in science, seventeen terms upon the sciences; and those in mathematics, thirteen terms. That is, each graduate

spent full time upon his specialty, and more than four years' time upon the *group* including his specialty, the specialists in language averaging more than twice the time required for a full course.

It may then, I think, be safely inferred that, however the facts be viewed, there is apparent no considerable distortion of the courses selected as major courses, any more than was found in the distribution of the four lines of work to the general student body. If there *be* any abnormal development, however, it would seem that in the humanities and the languages—excluding French previously excepted—students show most devotion to the subject.

PROMINENCE OF LANGUAGE

The special students in science spent more time upon language than upon either of the humanities or mathematics; ten terms upon the former, more than a year above the requirements, and seven terms to each of the latter. The mathematical students also, averaged four full years in language study, two years upon the humanities, and but four terms upon science, one term more than the minimum required. For those who took as their major subject one of the humanities, eleven terms were spent upon languages, almost four full years, and four terms upon science. The special language students averaged four terms each upon the sciences and mathematics; and six terms, or two years, upon the humanities, none of which is required.

The further discussion of the tables must be postponed to a second paper.

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VIII

DISCUSSIONS

COLLEGE ENTRANCE REQUIREMENTS IN ENGLISH

Several articles have appeared of late in educational journals criticising, more or less severely, the New England college entrance requirements in English. Among these the paper in the February EDUCATIONAL REVIEW, by Mr. Henry S. Pancoast, is especially worthy of notice as expressing, in concise form, the greatest objection to the standard requirements, namely, that they "encourage, almost compel, the total neglect of the historical development of literature." In the *Academy* for April, Professor James Morgan Hart advances the same argument, and enforces it with a plea for more scientific teaching in English literature.

There is, doubtless, good cause for these complaints. The agitation is not likely to cease until some advance is made in the direction indicated. But whose fault is it if radical changes are necessary? The preparatory schools have been commendably patient, it seems to me, under the stinging criticisms of the college men, but there are limits to endurance. If changes are to come, the grammar schools must lead the way. The best work, indeed well nigh all the work, is now being done in the higher grades of our secondary schools.

The all-important fact to be considered is that boys come to the preparatory schools almost wholly devoid of any interest in good literature. Their previous training has given them only the rudiments of composition and a smattering of grammar. Their reading has been confined for the most part to books of selections, chiefly of value for drill in vocal gymnastics. Not only have such boys no taste for good reading, and very naturally too, but a positive dislike for what is best in books dominates them. In addition to this, the average American boy sees no especial reason for studying English at all; he feels pretty certain that he already knows enough of it. There is much other work to be done, and all of it to him seems of much greater practical importance than the study of

his mother tongue and its literature. Such pupils, no matter what may be their age, are not ready for the scientific study of literature as defined by Professor Hart; much less could they comprehend its broader historical relations.

The first element of success in any study is that the pupil shall be interested in it. Without a living, healthy interest, or "liking," the work must be perfunctory and unsatisfactory. It is one thing to tell a college student that "he is not asked to like, but to understand," but quite a different thing to get a schoolboy to understand unless he "likes." The prerequisite condition of success in literary study is a thorough understanding of the subject. It would be difficult to conceive of more dreary and profitless labor than Milton or Shakspere studied by set rules. Few boys, however, on entering a college preparatory class can even paraphrase acceptably. What they find in books is something apart from and foreign to themselves. It takes no hold on them, and therefore has no influence. I know very well that this is a gloomy confession, but I believe my testimony is sure. In my own experience, which has been almost entirely with boys over fifteen years of age, I find very few acquainted with any branch or period of our literature; and the great majority scarcely have a passing acquaintance even with our most popular modern authors. So far as they have read at all it has been mainly of a "light," or doubtful, character. A respectably bound book is to many an object of grave suspicion. That such boys can be taught in an average course of two or three years to enjoy good reading, and to take pride in all their literary work, is the solace and reward of the teacher. It can be done, but I doubt if the "great masters" at first would contribute to it.

There is much in our literature that has really no place in time—it is for all time. Nursery tales, stories of adventure, and romances have each a counterpart in a boy's intellectual development. The limits of each are well defined. The skillful teacher will select at each period that which will best contribute to the needs of the course, and, at the same time, interest the pupil while leading him on to better things. Kingsley's *Heroes*, Dr. Brown's *Rab and His Friends*, *The Wonder Book*, *Tom Brown's School Days*, *Stories from Homer*, *Westward Ho*, *The Tale of Two Cities*, and others of a similar nature have been found well adapted to introductory purposes. Such a course, consisting of eight or ten masterpieces

a year, can be planned to cover all the standard entrance requirements. It will carry the pupil, too, by easy stages, from comparative ignorance to a very creditable understanding of good literature. Not a few boys, I am disposed to believe, would get an abiding love for what is best in books, as opposed to all that is low and degrading. This plan, I admit, fails, in the main, to provide for much of the historical treatment, but, should it be desirable, a place could easily be secured for it toward the end of the course. The breadth and quality of the work is conditioned only by the time devoted to it.

The one serious objection to all this is that it is mainly elementary. The greater part of it should be done in the grammar schools, and, I suspect, it could be done there with better results than are possible with older pupils. But, so long as it is not done, and the colleges insist on their present requirements, the extra load must be borne by the preparatory schools. Did not the New England College Commission have some such state of affairs, or worse, in mind when they devised the present system? I fancy that they appreciated the practical difficulties surrounding them, and that the range of subjects was intended to be wide enough to suit the various requirements of New England schools. It is only those schools that aim to do a minimum of work in English —the actual requirements and nothing more—which will find themselves seriously hampered by the present system.

Any selection that could be made by a commission or an individual would scarcely satisfy all parties. It is possible that the New England requirements could be bettered. It may be that they have already outgrown their usefulness; but, in any event, the changes to be made should be dictated by experience rather than by theory. Judged by their fruits, the standard requirements are worthy of much commendation. If, in the future, more stress is to be laid on the scientific teaching of literature, great caution should be exercised that it does not engender dislike for all that is distinctively good in books. The true scientific spirit, it seems to me, would not distinguish between the good and the bad; so long as cause and effect held their proper relations to one another, the conditions are satisfied. Literary study, I hold, is concerned with something more than mere facts. In a life already teeming with scientific ideas, it is surely all the more

necessary to develop the æsthetic side of a boy's nature. The whole man is of greater consequence than the mere intellect.

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HIGHER EDUCATION IN ARKANSAS

In the February number of the EDUCATIONAL REVIEW a very interesting article by Professor A. M. Comey, on "Growth of the Colleges of the United States," contains valuable statistics and encouraging deductions. As the number of institutions to be considered is large, and their catalogues are often unsatisfactory both in classification and curriculum, the labor and care required to obtain the condensed tabulated results can hardly be appreciated. Having so many difficulties with which to contend, Professor Comey is to be congratulated that he has been able to offer figures approximately correct.

However, as, in the West and South, many new colleges are springing up and others which were only preparatory schools now do more or less collegiate work, it would not be strange if, even in the State and United States reports consulted, these institutions did not appear, and consequently were not reached by the letters of inquiry sent out. I am quite sure that these facts account for the meager showing made by Arkansas in the article referred to, and believing that the writer will welcome corrections, especially as they make his favorable conclusions still stronger, I add the following information regarding Arkansas.

As the catalogues of several Arkansas colleges did not classify their students, I wrote to the presidents of such colleges not included in the article, asking the following questions: "During the scholastic year 1890–91, how many male students in your college were pursuing studies more advanced than English grammar, algebra, Cæsar, and Vergil?" and "Did you receive a letter of inquiry from Professor A. M. Comey?" To the latter all replied negatively; hence my inference seemed to be correct. Nearly all furnished the statistics desired. Several colleges have a low standard of admission, but, by counting only students who are in classes higher than those mentioned, a fair

estimate is made. No statistics for preceding decennial years are given, but, as there were few genuine colleges, the number of college students must have been small.

PROFESSOR COMEY'S TABLE.

Arkansas University	100
Little Rock University	10
Philander Smith	9
Total	119

CORRECTED TABLE.

Arkadelphia Methodist (Methodist, South)	9
Arkansas College (Presbyterian)	35
Arkansas University (State)	100
Hendrix College (Methodist, South)	40
Little Rock University (Methodist, North)	10
Ouachita College (Baptist)	50
Pea Ridge College (Disciples)	13
Philander Smith (Colored)	9
Searcy (Undenominational)	13
Total	279

While the above shows our institutions in a better light, still the number of collegiate students is lamentably small; but several facts must be considered, if the interest of our people in higher education is to be judged fairly.

First, as our colleges are young and comparatively unknown outside of the State, they receive few students from other States; all, or nearly all, of the 279 are Arkansas boys. Second, as many of our people came from the older States and were educated there, they are strongly attached to the old colleges and continue to patronize them. At least one hundred Arkansas boys are in trans-Mississippi colleges. Third, all of our colleges have preparatory departments connected with them, and the relation is so close, and the association of college and preparatory students so intimate, and so many preparatory students pursue collegiate studies in part, that the benefits and influence of the college are widely diffused. Fully fifteen hundred boys are in college preparatory departments. Though many of these will never complete their courses, and although in scholarship they will not generally rank with students of Eastern academies, yet they have imbibed the college spirit and throughout life will be identified with higher education, because they have lived in its atmosphere. Fourth, during the

last five years, principally within the last three years, the following amounts have been invested in college buildings and grounds:

State University Dormitory	about $20,000
Cumberland College	20,000
Arkadelphia Methodist	45,000
Central Female	30,000
Galloway Female	35,000
Hendrix	55,000
Ouachita	40,000
Quitman	15,000
Searcy	45,000
Total	$305,000

Considering the fact that our people are poor (very few men in Arkansas are worth over $100,000), the investments in permanent improvements are creditable. It is to be regretted, however, that the work of endowing has scarcely begun, Cumberland with $30,000 and Hendrix with $10,000 being the only endowed colleges in the State. Yet several of these institutions have competent faculties, offer good collegiate courses, and do honest work, as is attested by the ability of their undergraduates to enter corresponding classes in Eastern colleges and of their graduates to pursue post-graduate courses in the universities.

Men who are familiar only with well-endowed institutions may ask in amazement how such results are possible. The answer is not far to seek. These institutions are founded upon self-sacrifice, and the students feed on the very lifeblood of the teachers. For the sake of our students men of genuine ability refuse $2000 in well-known colleges, and on $500 or $1000, a bare living, labor among the young men around them. In Arkansas, at present, $100,000 endowment will do more for collegiate education than $1,000,000 in the older States. If, in education, as in other things, men seek the largest returns on their investments, Arkansas educational stock should be the most attractive, as, in my judgment, it will pay the largest dividends.

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IX

EDUCATION IN FOREIGN PERIODICALS

A New Method of Teaching Modern Languages

A. A. M. IN THE LONDON "JOURNAL OF EDUCATION"

"Several masters at Wiesbaden, and some university professors in different parts of the Empire, being discontented with the results generally obtained in the teaching of modern languages in the state schools, determined to see if it were possible to teach a class of boys to talk a language in addition to merely translating from and into German. I had the opportunity of testing two classes, one in the Realschule and the other in the Realgymnasium, and found the results obtained such as to promise a success utterly unlooked for under the old system.

"In the third class in the Realgymnasium I found that boys who were then beginning to study English for the second year were able to grasp the meaning of a story I read over to them twice, and also to answer, in English, questions I asked them on the story in the same language. In addition to this, they were able to answer many commonplace questions, and had evidently a very good stock of words at command. The pronunciation, too, a difficult matter as a rule with Germans, was remarkably good in most cases, and bore witness to extreme patience and fineness of ear on the master's part. In fact, the answers of nearly all, of a class of thirty, were so good that even an uneducated Englishman could not have failed to understand them.

"In the Realschule, where the boys begin to study English sooner, and where the class of boys is generally of a lower standard than in the Realgymasium, I had the pleasure of examining one of the lowest classes. The boys averaged from about ten to twelve years in age, were about twenty-eight in number, and had only studied English a few months. I found they could understand questions I asked them on certain pictures employed by the master, and could answer in very well pronounced English. They also knew the elements of the Eng-

lish grammar, could go through the numerals, tell the hour of the day, and answer some simple questions on such subjects as the weather.

"In both these cases the number of hours for English, per week, was comparatively small, and the number of boys in the class large. Any master accustomed to teaching modern languages, and more especially English to foreigners, will understand that boys able to understand an Englishman, to whose voice they were not accustomed, must have been taught by a very capable master, and under a very good method. It must also be remembered that in all the Prussian state schools only Germans are employed as masters, and very rarely can a man speak a foreign language so perfectly that his pupils would not be at first somewhat thrown off at hearing a foreigner speak.

"So highly has the success of this system been appreciated by the authorities, that two of the principal promoters—Herr M. Walter and Dr. F. Schmidt—have been appointed Directors of Schools. A third one, Dr. Ph. Rossmann, in conjunction with Dr. F. Schmidt, published last September a French Grammar on the new system, *Lehrbuch der französischen Sprache*. Several important schools, both in Germany and Switzerland, have adopted the book, and it has also been highly praised by several professors in the Berlin Normal School.

"According to this 'new method' the pupil must learn a foreign language just as he has learnt his own. That is to say, the pupil must be taught to speak and to think in a language first, and instinctively learn the grammar. He must not be at first taught to compare the foreign language with his own, as regards construction and grammar, and, therefore, translation from one language into the other is to be carefully avoided at first. Then, after he has attained a certain proficiency in the language, and not till then, should the master teach him the grammar, deductively, by calling his attention to *Form-lehre*.

"In a similar way, the various rules of syntax are gradually taught, and, according to the experience of those who teach thus, remain much more firmly fixed in the memory. The usual way of beginning is by taking some large wall picture—*e. g.*, one of those published for the purpose by Hölzel, of Vienna—which contains a moderately large number of objects, and hanging it up so as to be clearly seen by the class.

The master points to an object, say a duck, and, supposing he be teaching English, asks 'What is that?' and then carefully and repeatedly answers, 'That is a duck.' He then asks one of the boys, who replies in the same words, like a parrot. Like a parrot, too, he will probably imitate correctly the sounds made by the master, as he would have no written signs to mislead him.

"The master then writes down on the blackboard the English words used, but in phonetic, and not in ordinary characters. The class is made to write down these and other words that follow, and by the end of the lesson will have acquired some knowledge of simple answers and questions in the third person, the names of a number of objects, and the means of phonetically transcribing them. For the next lesson, all that has been written down must be learnt, and gone over carefully to insure correct pronunciation. Gradually the stock of knowledge is increased, the numerals and the pronouns are learnt, and more complicated questions may be put. After a while the sounds of words, written down phonetically, are carefully explained, and the ordinary orthography is taught.

"The phonetic system I have mentioned is that fixed and agreed on by the Association Phonétique des Professeurs de Langues Vivantes, and is probably the best, as being applicable to all languages, and not unnecessarily difficult. Some may object to the use of phonetics, that it is merely adding to the work to be done. I would reply, let them give it a fair trial, and they will find that the ease of thus fixing the pronunciation of non-phonetically written languages in a boy's memory more than repays the extra trouble. Nor has it been found that the use of phonetics has a prejudicial effect on the orthography of a language, such as English, for instance, for in it, orthography is more a question of eye than ear.

"When the pupils have firmly grasped the names of a good number of objects, they are set to write exercises on them, *e. g.*, to write down what certain objects are doing, how many there are, what color they are, etc., and, later, to ask the questions on paper. Of course during class-time it has not been the master alone who has asked the questions orally, but the boys are called up in turn to do so, and they must see they get the correct answers. Also questions relating to objects close at hand are asked and answered, *e. g.*, 'How many windows are there in the room?' 'How many boys?' 'What

time is it?' etc. Always, most careful attention must be paid to the pronunciation, or otherwise the time spent is worse than useless.

"Later on, when the pictures have been pretty well exhausted, and the pupils have acquired a certain knowledge of the grammar, and become somewhat familiarized with the simpler forms of the language, the master passes on to short stories. These he makes the pupils read over in class, and explains the new words met with. Then all books are shut, the pupils questioned on the story in the language it is written in, let us suppose in English, and finally some are asked to repeat the story, or perhaps all to write it down. Still later, the master reads a story over two or three times without letting the boys see it at all, and the same system of question and answer follows. In this second part, if the expression may be used, the more difficult rules of the grammar are practiced, and the questions and answers become more complicated, and no longer consist of simple sentences. After this stage has been well traversed, the time comes for going more scientifically—or, rather, more dogmatically—into the grammar, in order to meet the usual requirements of examinations; more time is spent on dictation and composition, and translation may be begun. Care must, however, still be had to prevent, by constant practice, the loss of the facility in speaking that has been already acquired.

"At the end of a course of teaching of this nature, the boys are able to carry on a conversation fairly, and to translate from one language to the other. They have acquired considerable accuracy in expressing themselves, and one does not hear the familiar remark in answer to a correction, 'How stupid of me! I know the rule quite well, but always forget to apply it.' Nor have they, as is so often the case, to begin a conversational course of lessons after leaving the school.

"From my own personal experience I may say that I have tried the system in teaching English in Italy, and found it successful. At the same time it is only right to remark that this method causes more trouble to the master at first, but he soon gets into it with practice, and is well repaid by the progress of his pupils.

"Up to the present time no exhaustive grammar has yet been published in Germany for learning English under this system, but last September the French one above mentioned made its

appearance. From it a very clear notion of the system may be obtained. In it are to be found none of the usual sentence-exercises for translation into French or German, and there is remarkably little German at all. There are copies of Hölzel's pictures, and other illustrations, any number of well chosen stories, and some simple French songs, which latter are easily taught in a school where all have to learn singing. Lastly, a plentiful use is made of phonetics, most of the stories being phonetically transcribed on the opposite page."

A SELECTION FROM BOOKS WRITTEN ON AND IN ACCORDANCE WITH THE PHONETIC SYSTEM.

M. Walter, Der französische Klassenunterricht. Entwurf eines Lehrplans, 1888. Marburg, Elwert. 1 m. 20.

H. Klinghardt, Ein Jahr Erfahrungen mit der neuen Methode. 1888. Marburg, Elwert. 1 m. 60.

Le Maître Phonétique. Rédacteur, M. Paul Passy, 6 rue Labordère, Neuilly-sur-Seine. (A monthly periodical, 2 frs. per annum to members.)

W. S. Macgowan, The Reading-Book as the center of Instruction in teaching a Foreign Language.—Phonetische Studien, IV., 1.

P. Passy, Kleines Lesebuch. Firmin Didot. 30 c.

P. Passy, Livre de Lecture (two parts). Firmin Didot. 20 c. and 50 c.

F. Lange, Hey's Fabeln für Kinder, with phonetic transcription. 1888. Whittaker. 2s.

J. Storm, Französische Sprechübungen. 1888. Velhagen und Klasing. Leipzic. 1 m. 80.

Ph. Rossmann and F. Schmidt, Lehrbuch der französichen Sprache auf Grundlage der Anschauung. 1882. Velhagen und Klasing. 2 m.

Hölzels Wandbilder. Each from 2 fl. 50 to 7 fl. 25. Ed. Hölzel, Louisengasse 5, Vienna, IV.

X

REVIEWS

Aristotle and Ancient Educational Ideals.—By THOMAS DAVIDSON. The Great Educators' Series; edited by NICHOLAS MURRAY BUTLER. New York: Charles Scribner's Sons, 1892, pp. xiii, 256. Price, $1.00.

This book must have been immensely difficult to write. Its author has not chosen to adopt what may be called the conventional mode of treatment. He has not given us a mere condensation and arrangement of the educational teachings of Aristotle, combined with some biographical material and a modicum of exegetical and critical commentary. Had the book been written after this plan, the author's task would have been an easy one, and the book itself would still have served a useful purpose in the hands of the student and the general reader; for while such a collection of Aristotelian dicta exists in the German of Kapp and others, there is, so far as the writer recollects, no similar work in English. But Mr. Davidson undoubtedly had in mind the fact that his book is, in a certain sense, an introduction to the series as a whole, and that, in consequence, a much broader view and a much more comprehensive treatment would better serve the purpose of the editor. Hence it is that the sub-title perhaps more accurately describes the contents of Mr. Davidson's interesting book; since, as he states in the preface, it has been his aim to expound Aristotle, first of all, in his relation to ancient pedagogy as a whole, by "tracing briefly the whole history of Greek education up to Aristotle, and down from Aristotle, to show the past which conditioned his theories and the future which was conditioned by them."

It is the comprehensiveness of this design that must have made its execution difficult. Out of the embarrassing wealth of material that lay at hand, to grasp the essential, to reject the irrelevant, and to elucidate the theme so as to show with distinctness the interdependence of the educational development of Greece and its political and social system—this makes no small demand upon the writer. The plan of the work is answerable also for the fact that the actual con-

sideration of Aristotle himself occupies only a fifth of the book—only fifty pages out of two hundred and fifty. But this subordination of Aristotle is, in reality, only apparent. He is, as already stated, the central figure in the story of Greek education; the aims of ancient intellectual life are presented in the light of Aristotle's exposition; its fundamental ideas are expressed in terms of Aristotle.

Mr. Davidson has done his work extremely well, especially in his preliminary analysis, in the succinct and lucid division of his subject, and in his wise avoidance of unnecessary detail. Describing, with singular clearness, the character of Greek pedagogic ideals, the condition and objects of Greek education, and finally the influences that modified it, he proceeds to treat it by periods. Adopting the division into Hellenic and Hellenistic, under the former head he sketches briefly the "old education" of early Greece—Æolic, Doric, and Ionic—and with more detail the "new education" in the brief but brilliant period that begins with Socrates and ends with Aristotle. Then, taking up the second division, he discusses the educational system of Rome as a modification and outgrowth of the later Greek, outlining the rhetorical education elaborated in Quintilian's treatise, and adding a slight sketch of Plotinus as representing the later Alexandrian influence and as being "the only truly great original thinker after Aristotle."

Mr. Davidson is at his best in giving brief and brilliant summaries of facts whose substance it is almost impossible for the general reader to extract from the bewildering mass of exposition and discussion found in most works that profess to afford an insight into the Zeitgeist of any particular period; and of which one is so often tempted to complain that he cannot see the forest by reason of the trees. Here, on the contrary, the writer has his principal subject well in hand, and has the gift also of imparting to the reader much of his own clearness of vision. The first few chapters of the book are models of vigorous and lucid condensation of fact, flashed before the mind in the smallest possible space. Nor can anyone use against Mr. Davidson the well-worn German adage to the effect that "Klarheit ist nicht immer Wahrheit"—a saying that has been so often dragged forth to the defense of muddled maundering. Excellently selected, too, are the brief quotations prefixed to the chapters, giving in a few terse and

often epigrammatic words, the substance of many pages of exposition.

The portion of the book which one would feel the most disposed to criticise is that in which the "Hellenistic" period is discussed. Mr. Davidson evidently writes of the early teaching, and of Aristotle, with an enthusiastic love of his theme. It is almost equally clear that his interest flags when he leaves Grecian soil and turns to the thought and intellectual life of Rome. One feels, in reading his estimate and analysis of Quintilian, that the writer is performing a purely perfunctory task, which he regards as necessary but not agreeable, and that the "rude conquerors" of Greece are of importance to him only because Greece condescended to lead them captive. This, which is the conventional attitude of the Hellenists, somewhat impairs the interest of the last few chapters; and, in particular, the analysis of the first book of the *Institutio* is little more than a transcription of Mr. Watson's summary. It is to be hoped that this volume will not be the only one of the series to touch upon the transmutation of Greek thought under Roman influence that wrought so powerfully upon Christian philosophy in the mediæval schools. A volume upon Boethius or upon Cassiodorus would be most fascinating reading if written so as both to present the educational life of that shadowy age which lies between the old and the new, and to narrate the labors of the men who, like the two just mentioned, paved the way for the great humanistic revival, and made the "age of Bracciolini" possible.

A less obvious criticism is suggested by the scant space given to the influence of Alexandria upon Rome and Roman education; but it is of course allowable to regard this influence as in the main a purely literary one, and in any case, Mr. Davidson probably concerns himself as little with Rome as with the details of the externals of ancient life; a rather amusing instance of which is found in his description of an ancient schoolroom, where, in passing over the arrangements with the lightest possible touch, he surprises us by suddenly descending to unexpected details and carefully noting that the benches were washed once a day, "probably with sponges."

The typography and general appearance of the book are excellent. Of minor slips and inaccuracies very few are noticeable, and these are of slight importance. One regrets to find, however, the sculptor Dipœnus figuring as

Dipœnis, and Quintilian's work cited as the *Institutio Oratorica*. On page 251, the reader is referred to Becker's *Gallus* for an account of *Greek* education; and one is led to infer that Mr. Davidson has not read all his Aristotle with equal care, since, if he had recently perused a certain passage of the *Rhetoric* (II: 12–14), he would not have ascribed to Solon the quotation which introduces his initial chapter.

The value of the book is much enhanced by an extremely interesting Appendix on the Seven Liberal Arts, in which is collected a great deal of curious information, a portion of which is taken from a paper by that ingenious scholar and graceful writer, Professor A. F. West.

H. T. Peck

Columbia College

The State Last. A Study of Dr. Bouquillon's Pamphlet, "Education: To whom does it belong?" With a Supplement Reviewing Dr. Bouquillon's "Rejoinder to Critics."—By Rev. James Conway, S. J., Canisius College, Buffalo, N. Y. New York and Cincinnati: Fr. Pustet & Co., 1892, pp. 116.

The author of this *Study* is recognized as a competent authority on the subject of the family, the state, and the Church in regard to education. A theologian, thoroughly versed in the teachings of moral theologians, Councils and Popes, in the history of education in Europe and the United States, in the political constitution and history of our country, and in the logic of common sense, he is especially fitted to discuss Dr. Bouquillon's politico-theological pamphlet. The *Study* shows the author to be not only a master of his subject, but also an agreeable writer, of a delicate wit, good-tempered, moderate, direct, and frank. Page by page, line by line, and often word by word, Dr. Bouquillon's arguments, authorities, method, and "some details of his procedure" are conscientiously examined. The results of this examination are not too strongly stated by the author on pp. 76, 77. He writes: "We have followed the Doctor patiently and impartially; we have studied the sources from which he gathered his materials; we have compared his references as far as it could be deemed necessary or relevant; we have carefully weighed his arguments and have come to the conclusion that far from producing anything that could contribute to the solution of the educational problem in this or any other country, he has only involved it in new difficulties, at least for this country, by putting before the public a collec-

tion of principles, partly false, partly vague and ambiguous, and altogether inapplicable to our circumstances, since they presuppose conditions entirely different from ours. We have found his argumentation to be loose and fallacious; his authorities misconceived, misinterpreted, or misapplied; his methods illogical; the details of his procedure inexact and inconsistent. He has not been able to muster a single argument to prove the strict, special, and proper right of the state to educate; with this right the whole theory of state education falls to the ground."

Not the least interesting portion of Father Conway's book is that wherein he examines Dr. Bouquillon's authorities. The Doctor had cited not only himself, St. Thomas, Suarez, and Leo XIII., but also Taparelli, Zigliara, Hammerstein, Cavagnis, and Sauvé. All of Dr. Bouquillon's authorities, other than himself, are put face to face with him in the *Study*. One by one they repudiate the Doctor's opinion. As to Monsignor Sauvé, "who was papal theologian at the Vatican Council, and sometime Rector of the University of Angers, in France," Father Conway writes: "Had we been able to possess ourselves of this work (*Questions religieuses*) sooner, it would have thrown much light on the dark points of Dr. Bouquillon's brochure—his somewhat tortuous disposition, his method, the many apparent inconsistencies, the meaning and import of most of the authorities he quotes; but we had the bad luck to find this work last of all, though it is the very first work a student of Dr. Bouquillon's pamphlet should read. The veneration of Dr. Bouquillon for Sauvé goes to the utmost limit of literary propriety. He adopts the same division, the same method, uses the same authorities, and even translates many passages almost *ad literam*—and sometimes, we must confess, without due discrimination." . . . . "The fault we have to find with Dr. Bouquillon's treatment of his revered friend Sauvé, however, is not so much for what he has taken from this excellent author, but rather for what he has omitted. Had he given us Sauvé's treatise *pur et simple*, with all the faults we have referred to, he would have conferred a favor on us and a benefit on Catholic education; but he has given us Sauvé's concessions to civil government without giving us Sauvé's demands for family and Church, and without giving us Sauvé's uncompromising conditions" (p. 36).

It is not alone as a piece of scholarly criticism alone that

this *Study* is useful. As a precise, thorough exposition of the Catholic teaching on education, it is invaluable. The character and extent of the rights of parent, Church, and state in regard to education are defined with exactness. Sound argument and apt illustration abound. A fact almost wholly lost sight of, and which the author recalls, is that the American Catholic asks only for the natural rights of man. As an American the Catholic should ask for no more, and is entitled to no less. To the current discussion of the place of the state in education, the most finished and important contribution that has been made is Father Conway's.

JOHN A. MOONEY

NEW YORK

An Introduction to the Study of Phonetics (English, French, and German) with Reading Lessons and Exercises.—By LAURA SOAMES. New York: Macmillan & Co., 1891, pp. xxiv, 249. Price, $1.50.

The growing importance of the study of phonetics, not alone for advanced scientific work in philology, but also for purely practical purposes in the more primary instruction in all languages, is each day more and more felt. This is particularly true in the case of the study of modern tongues in connection with English, and it is from this practical standpoint that the present book sets out.

In a Preface, which is written for the author by Miss Dorothea Beale, the purpose of the book is briefly given. It is "to give shortly and clearly an idea of the formation of the articulate sounds of the three modern languages most studied in our schools." By the copious examples adopted as illustrations, it may be added, the book incidentally brings into striking prominence some of the anomalies of our English spelling, and imparts more than one useful lesson in that respect.

The author herself tells us (p. 4) that the work is the result of long experience and preparation in the study of English sounds. The authorities, Sweet, Skeat, Ellis, Evans, Vietor, Passy, Schröer, and some other familiar names, are cited as having aided the author by their writings on the subject, or even by personal suggestion. Sievers seems to be missing from the list. The work falls into two parts, each of which is complete in itself. Part I (pp. 1–164) deals with phonetics proper; Part II (pp. 1–85) is a phonetic reading book with exercises.

Some introductory pages contain tables of the phonetic alphabets adopted for English, French, and German. The phonetic arrangement of the consonants and vowels in each of these tongues is given. A couple of clear diagrams are added to illustrate the structure of the organs of speech. In adopting a phonetic alphabet for English, the author has in general followed Sweet's Broad Romic and Evans's Union. The alphabets for French and German, though on the same plan, are original.

The usual description of the vocal organs (chap. i) briefly introduces the real subject. The next chapter (ii), illustrating the various ways in which our spelling represents the sounds in English, is useful in opening the eyes of the unthinking to some of the anomalies and curiosities in our "orthography." It might interest the layman to see that we employ some dozen or more distinct combinations of letters to represent an ordinary single sound *sh* (š). Thus (p. 14), *sh*, *s*, *ch*, *ss*, *c*, *t*, *shi si*, *ssi*, *ci*, *ce*, *sci*, *ti*, *sch*, *che*, *chsi*, *psh*, *sshe*. Some of these curious anomalies, it is true, arise from palatalization in combining a prefix or suffix with a root, thus giving rise to an š-sound, or again they may come from foreign tongues. As examples of the above combinations sounded as *sh*: *sh*e, *s*ugar, *ch*aise, as*s*ure, offi*ci*ate, so*ci*al, vi*ti*ate, mo*ti*on, fa*shi*on, A*si*a, mi*ssi*on, o*ce*an, con*sci*ous, moustac*he*, fu*chsi*a, *psh*aw, A*sshe*ton. When *sch*edule is also used as an example, we must remember that we have to do with an English, not an American pronunciation (shed'-ule).

The regular discussion of the separate English sounds, the consonants first, the vowels afterward, is next taken up (chap. iii). The phonetic alphabet above referred to is here employed. The analysis of the sounds, as a rule, is clearly given. Useful hints, which watchful eyes may catch, are here and there thrown out. Opinions may differ in regard to whether the sound representations are always satisfactory, but they are consistently employed in general, and the practical aim is kept in view. As in the case of "schedule" above noticed, we may occasionally observe certain English, local, or individual characteristics or peculiarities in the author's pronunciation. They are evidently faithfully recorded, and they are instructive as well as interesting in showing also international differences of which we perhaps do not always think. American students will do well to note this throughout the book.

The above chapter on single words, as well as the next (chap. iv) on the combination of words in a sentence, properly emphasizes among other things the peculiarities in the treatment of our letter *r;* familiar examples like *theirs* (dheaz), *fires* (faiaz), *bear up* (bēr), *bear no malice* (bea) are given with full details. Under the division of consonants one can hardly agree in wishing to see the designations "hard" and "soft" perpetuated; the author, however, recognizes "voiceless" and "voiced." It were better to have adopted them. Questions of accent, quantity, and the like receive some attention.

The chapter (v) that follows, contains a list, resembling the familiar appendix of a dictionary, giving the pronunciation of loan words in English. The writer (p. 86) upholds the practice of anglicizing foreign words as far as custom will permit. The list given includes most of the familiar foreign expressions. The following selections will illustrate the system of treatment: *adagio* (adaajyo), *bona fide* (*bowna* faidi), *bon voyage* (*bon* vwàyáazh, *bon* voiáazh), *Eiffel* (aifl).

A chapter (vi) is devoted to hints for teachers. It contains fruitful suggestions for those who are teaching children to spell. This section concludes the portion of the work that is strictly devoted to English.

The remaining pages (pp. 120–164) of this part of the book are devoted respectively to French and German from the phonetic standpoint. The method of treatment is similar, though of course not so extended as in the preceding.

Part II is devoted simply to reading lessons and exercises. An idea of the system of sound representation may best be obtained from a selection. The familiar John Gilpin of our childhood appears (p. 44) as

> Jon Gilpin woz a sitizn'
> Ov kredit and rináun
> A treyn-bænd kæptin iyk woz hiy
> Ov feymas Lœndan Taun.

The book is what it claims to be—an "Introduction." It is a book rather for higher school work than for the advanced phonetist. It should prove thoroughly useful in giving suggestions also to educators who have at heart the question of English spelling and pronunciation.

A. V. Williams Jackson

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New York

Primary Manual Training: Methods in Form Study, Clay, Paper and Color Work.—By CAROLINE F. CUTLER, of the Lucretia Crocker School, and Special Instructor in Manual Training to the Primary Teachers of Boston. Boston: Educational Publishing Co., 1891, pp. ix. 130.

This book, as is stated in a brief publishers' note, is but a transcript of the regular work done by the author in her own school. It has therefore the merit of suggesting only what has been done, and, as a matter of course, what can be done—it is practical. It consists of a series of specific directions, given to the primary teachers of Boston, on clay modeling, paper-cutting, paper-folding, stick-laying, drawing, the elements of design and color. The lessons begin with the type forms, the sphere, the cube, and the cylinder, giving directions for modeling them in clay, and for expressing the "facts" by means of paper-cutting, skeleton models, paper-folding, and drawing. Then follow directions on teaching the elements of color; but this subject is treated only in so far as it is needed, in connection with form, to teach the elements of design. This is followed by the development of the square, the right-angled triangular, and the equilateral triangular prisms. Then comes a series of lessons on paper-folding that deal with the facts of the forms thus far studied. The study of the ellipsoid, oblate spheroid, ovoid, the cone and pyramid, together with a few pages of directions on construction work in cardboard, forms the remaining part of the book. The course outlined is in every essential point identical with the course followed in form study and drawing in the best schools. It is therefore a very safe book for teachers to follow. Its directions are all clear and specific; the teacher who could not follow them would have to be stupid indeed. It is meant as a help to beginners in the work, and therefore omits nothing which such persons are likely to need. Preceding the body of the book, there are five pages of "General Suggestions" on the preparation and handling of the materials used and on the development of the type forms, followed by an outline in detail of the steps in the work of developing the sphere and the cube.

It would have added much to the value of the book if the author had added, to her explicit directions as to what to do and how to do it, a clear statement in each case of the specific purpose of the exercises. She does not discriminate between the different modes of expression, as to their purpose and pedagogical value. For example, on p. 14, after the children

are supposed to have modeled the cube in clay and to have observed the "facts" of the form, the suggestion is made, "The cube should also be formed of paper." Nothing is said to indicate that this mode of expressing the cube emphasizes the "facts," and therefore impresses them, in a way that modeling it in clay does not. The unsophisticated teacher might quite naturally ask, "What is the use of doing again by means of paper what I have just done by means of clay?" She would naturally suppose that the author meant to suggest two ways of doing the same thing for the sake of variety. On p. 17, the suggestion is made, in like manner, that "A skeleton cube can also be formed of sticks and peas, by placing the sticks to represent the edges of the cube, and joining the corners with peas." The word "also" in the sentence does not imply that some other way of making a skeleton cube has been suggested, but it means, as the context shows, that a cube can also be expressed in the form of a skeleton model. Such language would naturally lead the teacher to infer that this was merely a third way of doing what she had already done with clay and cardboard. As many special teachers of form and drawing do not clearly see the specific purpose of skeleton models, it is not safe to assume that the teachers for whom this book is intended need no guidance on this point.

Taken as a whole, the book will prove a very valuable aid to teachers, especially those in rural and village schools where there is no special teacher of drawing to help them in their work. There is probably no other manual quite so helpful as this for teachers so situated, and superintendents of rural districts will find it a wise outlay of the scanty school funds to place a copy of this book in every school. For teachers in cities in which form study and drawing are well taught, the book is too elementary and brief to be of great help. This must in justice be said in spite of the fact that it was made, apparently, more particularly for the use of the primary schools of Boston. Boston has been noted for everything that is good except drawing in its primary and grammar schools.

THOMAS M. BALLIET

SPRINGFIELD, MASS.

XI

EDITORIAL

"We are opposed to state interference with parental rights and rights of conscience in the education of children, as an infringement of the fundamental democratic doctrine that the largest individual liberty consistent with the rights of others insures the highest type of American citizens and the best government."

This rather Sphinx-like utterance is found in the platform of one of the great political parties in a Western State distinguished for its excellent educational institutions and the high and law-abiding character of its citizenship. When interpreted, the passage quoted means that its framers are opposed to a compulsory education law. Its terms are sufficiently vague and general to provide hiding-places for wary politicians. but its intent is clear.

The American people cannot shuffle with the question of compulsory education much longer. They must settle it one way or another, and that soon. The empty bombast of "pointing with pride to our unsurpassed system of public schools" has played its part. Our provisions for public instruction are admirable, to be sure; but ignorance and vice and low moral standards in public and private life are playing havoc with some of our much extolled "free institutions." European critics have pierced our armor of pride and self-assertion, and are asking searching questions as to why certain things occur here in spite of all our advantages.

Character, not intelligence, it may be said, is the remedy. This is indisputable; but unless history and human experience are strangely misleading, character flourishes on a soil of knowledge, not on one of ignorance. The State's own safety is bound up with the character, and so in a measure with the intelligence, of its citizenship. To secure a minimum of both, so far as a system of public schools can do so, is the plain and accepted duty of the State. There is no natural right to be ignorant or vicious that limits the exercise of the State's power in securing this minimum. Compulsory education is, therefore, the logical consequent of universal suffrage. If the American

people propose to allow religious feeling, or any other force, to set aside this principle, they should do so understandingly, with their eyes open to the consequences. Compulsory education should not, and need not, trench in the least on any parental right or any religious conviction. Anti-religious public education is no more a necessity than sectarian proselyting at State expense. These facts should be preached incessantly from the platform and by the press. No cowardly attempt to avoid a direct argument on the school question should be permitted. Meet it fairly and squarely, not with passion or partisanship, but with argument.

On the same day that the compulsory education law of Ohio was pronounced constitutional by the State Supreme Court, the decision of the Roman authorities concerning Archbishop Ireland's plan of fusing the parochial and the public schools was received by cable. It proves to be a most important document, not only for the Roman Catholic Church but for the American public school system. For twist and turn its guarded phrases and technical terms as we may, Archbishop Ireland is sustained, and his liberal, patriotic, and thoroughly religious policy is to be permitted to continue. It is true that it is an experiment, but it is a most hopeful and courageous one for the American common school, and all good citizens will support it by every means in their power.

For some time past the New York Board of Education has not been much in the eye of the public. The troublesome reformers in the Board were quietly replaced, as their terms expired, with less ambitious spirits. Lately, however, a new member, who forgot that he ought not to ask any questions, made some personal inquiries regarding the proficiency of the public school pupils in the use of the English language. He was disappointed at the result, and said so. For this serious breach of etiquette he was frowned upon, and his motions relating to the matter were sent to a committee that has for years enjoyed an enviable reputation as a pigeon-hole. These actions were not without an effect, however. They at least roused another honorable member to active protest against action looking toward the establishment of kindergartens in connection with the public schools, on the ground that

they would "take children from their cradles and cram grammar down their throats." This use of grammar as soothing syrup has certain elements of novelty about it; the average observer will probably wonder at its having been first suggested in so conservative and intelligent a body as the New York Board of Education is reputed to be.

The report of the Board of Supervisors of the public schools of Boston for 1890–91 has just been issued. It was prepared by Mr. Ellis Peterson, and is worthy in many respects of most careful study. Dealing, as it does, with recent changes in the Boston course of study, and treating with considerable vigor of the reforms in the grammar school curriculum proposed by the New England Association of Colleges, it must be regarded as a most timely and able contribution to the discussion of a controversy the decision of which is vitally important to progress in public school education. Boston has always shown herself ready to adopt educational reforms when their usefulness has been well established; and it is not, therefore, surprising to find that most conservative body, the Board of Supervisors —a body that is unique in public school administration in this country--while making a hard fight against some of the suggested reforms, accepting others, either in whole or in part, and contending that still others were long since incorporated in the course of study.

The two most obvious concessions to the reform movement are the reduction in the time devoted to geography and the stress laid upon the study of natural science. Formerly, from two to three hours per week for six years were devoted to the study of geography. Now, the study of geography is confined to five years, being dropped from the last year of the grammar school course, while the time per week is not increased. This in itself is a very great concession, even though no attempt appears to have been made to teach physical geography in connection with natural science and political geography in connection with history.

Under the new course of study, an hour and a half per week for five years, and two hours per week during the last

year, of the grammar school course, are devoted to elementary science. Notwithstanding Superintendent Seaver's admission in his last report that the observation lessons in the Boston schools, except in rare cases of combined skill and enthusiasm on the part of the teacher, are to a very great extent a failure, the Boston school authorities have evidently determined to persist in the attempt to teach natural science in the common schools. The Supervisors, however, raise a note of warning that all teachers of natural science would do well to heed. "The educational value," they say, "of science work in the grammar schools must be great, provided the method of work is largely observational, inductive, and systematic. If the method be in great part deductive, although illustrated by examples or experiments, or if the subject be presented inductively in the haphazard style, the sooner the time be used for other purposes the better will it be for the pupils." While all will not agree with the theory that the utility of science-teaching depends exclusively on the method of presenting the subject, yet no one will deny that the right method carries with it very great advantages. It is too much to expect, however, that the best methods of teaching natural science will be universally, or even generally, adopted, as long as the subject is not taught by specialists.

A strong plea is entered by the Supervisors in favor of specializing the work of teachers during the last three years of the grammar school course. This change, as was pointed out by Mr. Maxwell in his article on "The Grammar School Curriculum" in the EDUCATIONAL REVIEW for May, is the necessary condition of introducing any radical reform. Speaking of the difficulty of securing a sufficient number of skillful teachers of foreign languages in the grammar schools, the Supervisors say: "This difficulty might, in time, be met, if the departmental plan of teaching were introduced into the three upper classes of the grammar schools. This change in organization would be of immense advantage to the schools, if only able instructors were placed in charge of the departments. There is no doubt that skill, even to the degree of expertness, could be acquired by a teacher who had received a good general training, and who then, following his bent, devoted his time and energy to one department of study and teaching. The plan of requiring one instructor to teach all the subjects

of study pursued by one class in one year, results usually in scattering his energy and sometimes in expending it on subjects that he, either by nature or by lack of training, is not qualified to teach. Think, too, of the waste of a pupil's time, who, in six years, is under, at least, six different teachers of penmanship, no one of whom may be expert in teaching that subject. The waste is likely to be especially great in drawing, in singing, in elocutionary reading, and in a part of the subjects of elementary science; nor, in some schools, is the waste small in geography, history, and arithmetic." If the departmental plan of teaching were adopted for the three upper classes in the Boston grammar schools, the Supervisors would probably find that all of the reforms proposed by the New England Association of Colleges are possible.

Another striking concession to the reform spirit is the proposition to introduce a foreign language as an elective study. The time-honored custom in Boston has been to take boys and girls, who desire to prepare for college, from the grammar schools at eleven years of age and place them in the Latin schools. It is in this way that President Eliot describes himself as having been "rescued" from the grammar school. The assumption has been that only those young people who meditate entering college ought to begin the learning of a foreign language at an age when it can be learned most easily. But now the Supervisors ask: "May not the demands of a general education, or the preparation for special callings, make it desirable for other pupils, than those who are preparing for colleges, to begin early the study of a foreign language?" Had the New England College Association accomplished nothing more than to secure this admission from so conservative a body as the Supervisors of Boston, its labors would have been amply repaid. In neglecting to teach a living foreign language at an early age, the public schools have placed themselves, in this respect at least, far behind the schools of France and Germany and the best private schools in this country.

The most unsatisfactory part of this Report is that which treats of mathematics. It makes a weak defense of the antiquated "course" in arithmetic; claims that, while "objective

geometry would be, practically and educationally, one of the best studies for pupils in primary and grammar schools," yet experience has taught that, "until a careful plan for the study of objective geometry shall have been formed, the work in it, except in mensuration, will probably be miscellaneous and unsatisfactory"; and states positively that it is "out of the question to add algebra to the present grammar school course of study." If Boston school officers could bring themselves to observe what is being done in other places, the Supervisors would be saved the humiliation of making such a statement as that just quoted with regard to algebra. It is not out of the question to add algebra to the present grammar school course of study. For years, it has been so added in the public schools of Brooklyn.

State Superintendent Wolfe of Missouri has just sent out a circular letter to other State Superintendents, wherein he suggests a meeting next September for the purpose of considering uniform State statistics. This suggestion is most valuable and timely. The remarkable heterogeneity of the statistics regularly collected by different States makes comparison of data in certain essential matters not only exceedingly difficult but almost futile. The necessity of conforming somewhat to the statistics required by the National Bureau of Education has brought about some degree of uniformity. But accident, or the tendency of one State to copy another, rather than any rational conviction of what is worth collecting and preserving, is responsible for whatever else of uniformity may exist.

Owing to the diversity of school laws there must always be a diversity in the kinds of data to be collected; but the general adoption of a uniform method of reporting school age, population, attendance, cost per pupil, etc., would greatly facilitate the labor of comparison and give us more satisfactory results. All that is needed to effect this desirable improvement is a willingness on the part of any considerable number of State Superintendents to come together at a convenient time and piace and agree upon some system of collecting and recording data that should be generally acceptable. To change old forms and pracitces is not easy, it is true; but in this matter the State Superintendent is almost absolutely

supreme, and if a dozen States were to harmonize their differences it would not be long before all others would follow the lead.

The same letter alluded to above suggests also the consideration of interstate indorsement of State certificates or licenses to teach. This, too, is an excellent suggestion. Already the States of New York and New Jersey have incorporated into their respective school laws this power to give full force and effect to certificates issued by other States. There seems to be no valid objection to the universal adoption of this plan. The conditions upon which State certificates are everywhere granted will be found upon investigation to be almost identical. Age, experience, scholarship, comprise all the facts that are usually inquired into. In regard to conditions of age and experience there should be no difficulty in securing an agreement; nor, indeed, in the matter of scholarship qualifications will there be any wide difference of opinion. It might be found necessary for some States to raise their standard of requirements as to scholarship to meet the new conditions essential to interstate recognition of their certificates; but this would be distinct gain. The plan of examination might have been a safe and desirable one years ago when the State school systems were in their embryonic stage and differed widely; but so great now is the prevailing uniformity that to retain longer the old practice is an unnecessary and unjustifiable hardship.

The unexpected resignation of President Adams of Cornell University, and the circumstances surrounding it, call for more extended notice than is now possible. The position of president of a large and rich American university is a difficult one at best, but it will become an impossible and unnecessary office if certain tendencies that show themselves, from time to time, are allowed to go on unchecked. The danger is less in the case of older corporations like Harvard, Yale, and Columbia; but with newer institutions, largely or wholly the result of the beneficence of one individual, it is very different. The EDUCATIONAL REVIEW will return to the discussion of this topic hereafter.

The administration of President Adams has been singularly successful, to all outward appearance. Cornell University, under his direction, has increased greatly in numbers, strength, and influence. It is no longer a struggling infant, but a well-developed institution of assured position and reputation. The fact that it has many professors who are called elsewhere, and are esteemed worthy of being called, is greatly in its favor. President Adams will carry with him into retirement the respect and good wishes of those who have been associated with him in various lines of educational work, and it is greatly to be hoped that his wide experience and ripe judgment will not be wholly turned away from the solution of problems in educational administration and organization.

In Professor Schurman the trustees have found an admirable successor to Presidents White and Adams. If untrammeled, his administration will be as successful as theirs have been. President Schurman has the full confidence both of his immediate associates and of the country.

XII

AUTHORIZED ANNOUNCEMENTS

BUREAU OF EDUCATION

The following publications of the Bureau of Education have been delivered by the public printer since January 1, 1892:

Annual Report of the Commissioner of Education for 1888–89, 2 vols., delivered to Bureau of Education	20,000 copies
Annual Report of the Commissioner of Education for 1888–89, 2 vols., delivered to Congress	24,000 copies

Circulars of information:

History of Higher Education in Michigan .	20,000 copies
Proceedings of the Fourth International Prison Congress	20,000 "
History of Higher Education in Massachusetts	20,000 "
History of Higher Education in Ohio . .	20,000 "
Southern Women in the recent Educational Movement in the South	20,000 "
	144,000 "

The accessions to the library of the Bureau from January 1 to April 30 were 1577 volumes. Of these 570 were American; 153 English; 61 French; 157 German; 345 from Italy, Spain, Sweden; and 291 are a special collection of works on social pathology. Some of the more important titles among these accessions, which are now ready for use by students and scholars, are: Andrew Clark, *Colleges of Oxford;* Thomas Davidson, *Aristotle, and the Ancient Educational Ideals;* Thomas Hughes, *Loyola, and the Educational System of the Jesuits;* John B. Henneman, *Historic Elements in Virginia Education;* New South Wales, *Report on Technical Education and Manual Training;* Francis de Paravicini, *Early History of Balliol College;* William Young, *History of Dulwich College;* A. Wurtz, *Les Hautes Etudes Pratiques dans les Universités*

Allemandes; F. Nicolay, *Les Enfants mal élévés;* M. Breal, *L'Enseignement des langues anciennes.*

J. de Sonsa Filho, *Ensino Technico no Brazil; El Instituto Nacional de Chile*, 1835–1846; J. Roldos y Pons, *Disquisiciones Pedagogicas.*

Ministro di Agr., Ind, e Com., *Statistica dell' Instruzione Sec. e Sup.*, 1888–89; G. Cesca, *Insegnamento Secondario Classico;* P. Vecchia, *Le Scienze e le Lettre nella Educazione.*

Pfisterer, *Pädagogische Psychologie;* H. Keferstein, *Konfessionsschule und ihre Konsequenzen;* P. Caner, *Unsere Erziehung durch Griechen u. Römer;* H. Schiller, *Pädagogische Seminarien für das Höh. Lehrant;* G. Voight, *Bedeutung der Herbart'schen Pädagogik.*

UNIVERSITY OF THE STATE OF NEW YORK.

The thirtieth University Convention will be held in the Senate Chamber at Albany, on July 5, 6, and 7. A large and very important meeting is expected. Mr. George William Curtis will deliver the chancellor's address, and the annual oration will be given by President William Preston Johnson of Tulane University, New Orleans.

The most important topics to be discussed are: the seminar method of advanced instruction; the study of economic and social science in university, college, and academy; standards of admission to college, and teaching by correspondence.